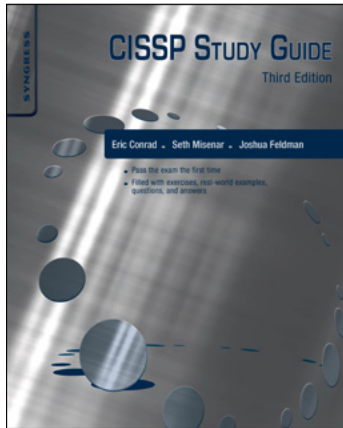
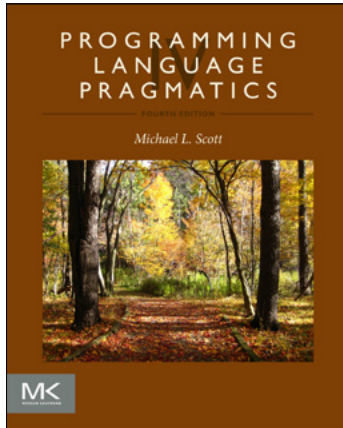




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GPU-based Parallel Implementation of Swarm Intelligence Algorithms

Ying Tan Professor, National Laboratory on Machine Perception, Department of Intelligence Science, School of Electronic Engineering and Computer Science, Peking University, Beijing, CHINA



This cutting-edge book is the first to systematically present GPU-based parallel implementation of swarm intelligence algorithms, providing a unique, dual perspective

KEY FEATURES

- Presents a concise but sufficient introduction to general-purpose GPU computing which can help the layman become familiar with this emerging computing technique
- Describes implementation details, such as parallel models and performance metrics, so readers can easily utilize the techniques to accelerate their algorithmic programs
- Appeals to readers from the domain of high performance computing (HPC) who will find the relatively young research domain of swarm intelligence very interesting
- Includes many real-world applications, which can be of great help in deciding whether or not swarm intelligence algorithms or GPGPU is appropriate for the task at hand

DESCRIPTION

GPU-based Parallel Implementation of Swarm Intelligence Algorithms combines and covers two emerging areas attracting increased attention and applications: graphics processing units (GPUs) for general-purpose computing (GPGPU) and swarm intelligence. This book not only presents GPGPU in adequate detail, but also includes guidance on the appropriate implementation of swarm intelligence algorithms on the GPU platform.

GPU-based implementations of several typical swarm intelligence algorithms such as PSO, FWA, GA, DE, and ACO are presented and having described the implementation details including parallel models, implementation considerations as well as performance metrics are discussed. Finally, several typical applications of GPU-based swarm intelligence algorithms are presented. This valuable reference book provides a unique perspective not possible by studying either GPGPU or swarm intelligence alone.

This book gives a complete and whole picture for interested readers and new comers who will find many implementation algorithms in the book suitable for immediate use in their projects. Additionally, some algorithms can also be used as a starting point for further research.

ISBN: 978-0-12-809362-7

PUB DATE: June 2016

FORMAT: Paperback

PAGES: c. 256

AUDIENCE

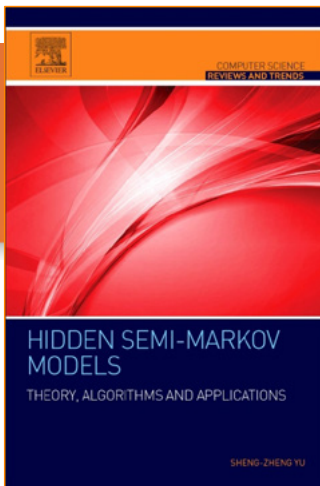
Researchers, engineers, graduates and senior undergraduates with interests in parallel implementation of novel swarm intelligence algorithms like particle swarm optimization, fireworks algorithms, genetic algorithms, and their applications.

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Hidden Semi-Markov Models

Theory, Algorithms and Applications

Shun-Zheng Yu School of Information Science and Technology, Sun Yat-Sen University, China



The latest information, new developments and emerging topics about HSMMs, including illustrated examples, with a more in-depth treatment and foundational approach in the understanding and application of HSMMs.

KEY FEATURES

- Discusses the latest developments and emerging topics in the field of HSMMs
- Includes a description of applications in various areas including, Human Activity Recognition, Handwriting Recognition, Network Traffic Characterization and Anomaly Detection, and Functional MRI Brain Mapping.
- Shows how to master the basic techniques needed for using HSMMs and how to apply them.

DESCRIPTION

Hidden semi-Markov models (HSMMs) are among the most important models in the area of artificial intelligence / machine learning. Since the first HSMM was introduced in 1980 for machine recognition of speech, three other HSMMs have been proposed, with various definitions of duration and observation distributions. Those models have different expressions, algorithms, computational complexities, and applicable areas, without explicitly interchangeable forms.

Hidden Semi-Markov Models: Theory, Algorithms and Applications provides a unified and foundational approach to HSMMs, including various HSMMs (such as the explicit duration, variable transition, and residential time of HSMMs), inference and estimation algorithms, implementation methods and application instances. Learn new developments and state-of-the-art emerging topics as they relate to HSMMs, presented with examples drawn from medicine, engineering and computer science.

ISBN: 978-0-12-802767-7

PUB DATE: October 2015

FORMAT: Paperback

PAGES: c. 196

AUDIENCE

Researchers, graduate students and academic faculty in the fields of artificial intelligence, machine learning and involved in modelling/analysis of time series in multiple areas

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INTRODUCTION TO
**STATISTICAL MACHINE
LEARNING**



ISBN: 978-0-12-802121-7

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 520

AUDIENCE

Data scientists and graduate students and those interested in statistical machine learning

Introduction to Statistical Machine Learning

Masashi Sugiyama Professor, The University of Tokyo, Japan

MK
MORAN KAUFMANN

Bridges the gap between theory and practice by providing a general introduction to machine learning that covers a wide range of topics concisely.

KEY FEATURES

- Provides the necessary background material to understand machine learning such as statistics, probability, linear algebra, and calculus.
- Complete coverage of the generative approach to statistical pattern recognition and the discriminative approach to statistical machine learning.
- Includes MATLAB/Octave programs so that readers can test the algorithms numerically and acquire both mathematical and practical skills in a wide range of data analysis tasks
- Discusses a wide range of applications in machine learning and statistics and provides examples drawn from image processing, speech processing, natural language processing, robot control, as well as biology, medicine, astronomy, physics, and materials.

DESCRIPTION

Machine learning allows computers to learn and discern patterns without actually being programmed. When Statistical techniques and machine learning are combined together they are a powerful tool for analysing various kinds of data in many computer science/engineering areas including, image processing, speech processing, natural language processing, robot control, as well as in fundamental sciences such as biology, medicine, astronomy, physics, and materials. *Introduction to Statistical Machine Learning* provides a general introduction to machine learning that covers a wide range of topics concisely and will help you bridge the gap between theory and practice. Part I discusses the fundamental concepts of statistics and probability that are used in describing machine learning algorithms. Part II and Part III explain the two major approaches of machine learning techniques; generative methods and discriminative methods. While Part III provides an in-depth look at advanced topics that play essential roles in making machine learning algorithms more useful in practice. The accompanying MATLAB/Octave programs provide you with the necessary practical skills needed to accomplish a wide range of data analysis tasks.

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ISBN: 978-0-12-803468-2

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 350

AUDIENCE

Researchers and graduate students in Computer Science, Artificial Intelligence and Health Informatics

Applied Computing in Medicine and Health

Dhiya Al-Jumeily Principal Lecturer, Faculty of Engineering and Technology, Liverpool John Moores University, UK

Abir Hussain Reader at Faculty of Engineering and Technology, Liverpool John Moores University, UK

Conor Mallucci Consultant Neurosurgeon, Walton Centre for Neurology and Neurosurgery Liverpool, UK

Carol Oliver PRINCE2 Practitioner, UK



This comprehensive presentation surveys the latest research into current applied computing challenges, focusing on the application of artificial intelligence in medicine and health.

A Volume in the Emerging Topics in Computer Science and Applied Computing Series.

KEY FEATURES

- Discusses applications of artificial intelligence in medical data analysis and classifications
- Provides an overview of mobile health and telemedicine with specific examples and case studies
- Explains how behavioral intervention technologies use smart phones to support a patient centered approach
- Covers the design and implementation of medical decision support systems in clinical practice using an applied case study approach

DESCRIPTION

Applied Computing in Medicine and Health is a comprehensive presentation of on-going investigations into current applied computing challenges and advances, with a focus on a particular class of applications, primarily artificial intelligence methods and techniques in medicine and health.

Applied computing is the use of practical computer science knowledge to enable use of the latest technology and techniques in a variety of different fields ranging from business to scientific research. One of the most important and relevant areas in applied computing is the use of artificial intelligence (AI) in health and medicine. Artificial intelligence in health and medicine (AIHM) is assuming the challenge of creating and distributing tools that can support medical doctors and specialists in new endeavors. The material included covers a wide variety of interdisciplinary perspectives concerning the theory and practice of applied computing in medicine, human biology, and health care.

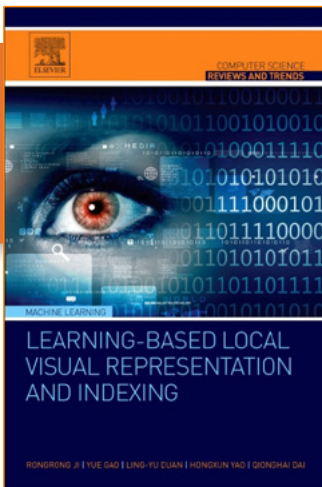
Particular attention is given to AI-based clinical decision-making, medical knowledge engineering, knowledge-based systems in medical education and research, intelligent medical information systems, intelligent databases, intelligent devices and instruments, medical AI tools, reasoning and metareasoning in medicine, and methodological, philosophical, ethical, and intelligent medical data analysis.

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Learning-Based Local Visual Representation and Indexing

Rongrong Ji Director of the Intelligent Multimedia Lab at Xiamen University,
Yue Gao Department of Automation, Tsinghua University, Beijing, China
Ling-Yu Duan Peking University
Yao Hongjun Harbin Institute of Technology, Harbin, China
Qionghai Dai Department of Automation, Tsinghua University, Beijing, China



A Volume in the Computer Science Reviews and Trends Series.

KEY FEATURES

- Discusses state-of-the-art procedures in learning-based local visual representation.
- Shows how to master the basic techniques needed for building a large-scale visual search engine and indexing system
- Provides insight into how machine learning techniques can be leveraged to refine the visual recognition system, especially in the part of visual feature representation.

DESCRIPTION

Learning-Based Local Visual Representation and Indexing, reviews the state-of-the-art in visual content representation and indexing, introduces cutting-edge techniques in learning based visual representation, and discusses emerging topics in visual local representation, and introduces the most recent advances in content-based visual search techniques.

ISBN: 978-0-12-802409-6

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 110

AUDIENCE

Researchers, graduate students and academic faculty in the fields of artificial intelligence. More specifically, those who are doing research in computer vision, pattern recognition, multimedia technique, machine learning, and data mining.

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Industrial Agents

Emerging Applications of Software Agents in Industry

Edited by: **Paulo Leitão** Associate Professor and Head of the Department of Electrical Engineering, Polytechnic Institute of Bragança, Portugal
Stamatis Karnouskos Research Expert on M2M/Internet of Things SAP, Mannheim, Germany



An edited work presenting the latest research and industry applications of agent-based software systems

KEY FEATURES

- Learn how new scientific approaches and technologies aggregate resources such next generation intelligent systems, manual workplaces and information and material flow system
- Gain insight from experts presenting the latest academic and industry research on multi-agent systems
- Explore multiple case studies and example applications showing industrial agents in a variety of scenarios
- Understand implementations across the enterprise, from low-level control systems to autonomous and collaborative management units

DESCRIPTION

Industrial Agents explains how multi-agent systems improve collaborative networks to offer dynamic service changes, customization, improved quality and reliability, and flexible infrastructure. Learn how these platforms can offer distributed intelligent management and control functions with communication, cooperation and synchronization capabilities, and also provide for the behavior specifications of the smart components of the system. The book offers not only an introduction to industrial agents, but also clarifies and positions the vision, on-going efforts, example applications, assessment and roadmap applicable to multiple industries. This edited work is guided and co-authored by leaders of the IEEE Technical Committee on Industrial Agents who represent both academic and industry perspectives and share the latest research along with their hands-on experiences prototyping and deploying industrial agents in industrial scenarios.

ISBN: 978-0-12-800341-1

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 456

AUDIENCE

Advanced practitioners from industry and academia, and graduate students in the field of multi-agent systems, particularly those tasked with applying agents to industrial scenarios

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BIO-INSPIRED COMPUTATION IN TELECOMMUNICATIONS

Xin-She Yang, Su Fong Chien, Tiew On Ting

MK

ISBN: 978-0-12-801538-4

PUB DATE: February 2015

FORMAT: Paperback

PAGES: c. 330

AUDIENCE

Researchers in artificial intelligence,
telecommunication engineers,
computer scientists

Bio-Inspired Computation in Telecommunications

Xin-She Yang School of Science and Technology, Middlesex University, UK
Su Fong Chien Associate Professor of Engineering & Technology,
Multimedia University, Selangor, Malaysia
T.O. Ting Lecturer, Department of Electrical and Electronic Engineering,
Xian Jiaotong-Liverpool University, Jiangsu, China

MK
MORAN KAUFMANN

Reviews the latest developments in bio-inspired computation from both theory and application as they relate to telecommunications and image processing

DESCRIPTION

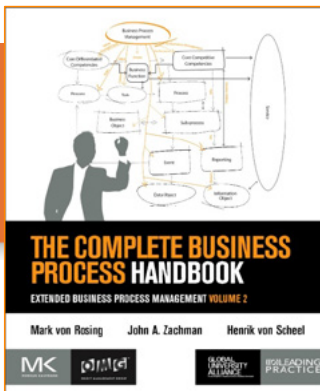
Bio-inspired computation, especially those based on swarm intelligence, has become increasingly popular in the last decade. *Bio-Inspired Computation in Telecommunications* reviews the latest developments in bio-inspired computation from both theory and application as they relate to telecommunications and image processing, providing a complete resource that analyzes and discusses the latest and future trends in research directions. Written by recognized experts, this is a must-have guide for researchers, telecommunication engineers, computer scientists and PhD students.

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The Complete Business Process Handbook

Extended Business Process Management Volume 2

Mark von Rosing Chairman, Global University Alliance, Denmark

John A. Zachman Zachman International, USA

Henrik von Scheel CEO, LEADing Practice ApS, Denmark



Extensively researched and methodical in its presentation, this book provides information on every aspect of the processes, frameworks, methods, and approaches to implement BPM—an area with increasing interest as the community of managers, end users, analysts, consultants, vendors, and academics continues to grow and evolve

ISBN: 978-0-12-802860-5

PUB DATE: June 2016

FORMAT: Paperback

PAGES: c. 560

AUDIENCE

Process practitioners (managers, business analysts, business process architects); students in BPM programs, some Lean and Six Sigma professionals

KEY FEATURES

- Teachers users about business process management (BPM) and how to get started
- Provides extensive information on BPM processes and frameworks, methods, and approaches to implement BPM
- Gives real-world best practices and leading practice examples of award-winning industry leaders and innovators
- Presents common pitfalls that can lead to failed BPM projects, and ultimately, poor BPM adoption

DESCRIPTION

The Complete Business Process Handbook: Extended Business Process Management, Volume Two, provides extensive information on every aspect of the processes, frameworks, methods, and approaches to implement BPM, an area with increasing interest (in the domain of BPM) for an ever-growing community of managers, end users, analysts, consultants, vendors, and academics. This book reflects the increasing interest in BPM and meets its demands by covering groundbreaking new research on best practices, leading practices, and outperformers vs. underperformers.

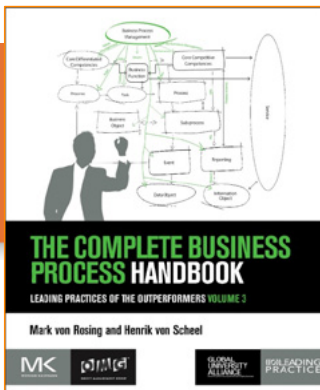
It provides real-world best practices and examples of award-winning industry leaders and innovators. Along with an in-depth look at extended BPM ontology, readers will discover enhanced modeling capabilities that enable an entirely new way of working with processes, along with tactics on how to combine enterprise architecture and BPM. The book provides a comprehensive assessment of the topic, helping users gain a better understanding of business process management, how to get started, and how to avoid the common pitfalls that can lead to failed projects and poor BPM adoption.

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The Complete Business Process Handbook

Leading Practices of the Outperformers Volume 3

Mark von Rosing Chairman, Global University Alliance, Denmark

Henrik von Scheel CEO, LEADing Practice ApS, Denmark



This helpful handbook uses detailed cases from early industry adopters such as Lego Systems, Saxo Bank, Maersk, and others to explain how successfully deploying business process management (BPM) can have a profound impact, guiding readers through the executive layers that define the strategies, critical success factors, and goals of business

ISBN: 978-0-12-803068-4

PUB DATE: May 2016

FORMAT: Paperback

PAGES: c. 448

AUDIENCE

Process practitioners (managers, business analysts, business process architects); students in BPM programs, some Lean and Six Sigma professionals

KEY FEATURES

- Presents tactics on how to implement the BPM anatomy
- Provides an in-depth look at ways of thinking, working, and modeling
- Helps readers discover technology, methodology, governance, process-based implementation content, and performance and value metrics
- Serves as an ideal reference for users interested in process modeling, enterprise architecture, and design and management
- Discusses groundbreaking new research on BPM best practices as deployed by leading companies

DESCRIPTION

The Complete Business Process Handbook: Leading Practices from Outperformers, Volume Three, provides lessons from leaders in the industry who share topics relevant to all levels of an organization. Using numerous examples, illustrations, and an established framework, author-editors Mark von Rosing and Henrik von Scheel guide readers through the executive layers that define the strategies, critical success factors, and goals of business. This volume speaks to the business managers who administer tasks and govern, evaluate, and monitor the business, and to the operational layer, which is responsible for delivery and execution.

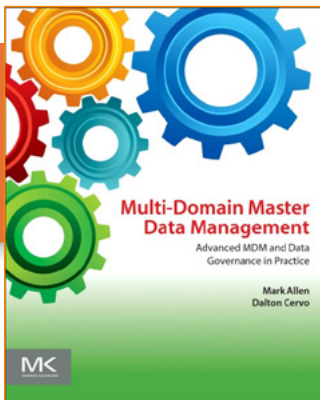
Through the use of detailed cases from early industry adopters such as Lego Systems, Saxo Bank, Maersk, and others, the book explains how successfully deploying business process management can have a profound impact. Examples of these strategies cover how leaders apply business process today, how to get started, how to adopt leading BPM practices to improve competitive advantage, how to differentiate by linking business models to process models, and learning the structured way of thinking, working, and modeling.

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ISBN: 978-0-12-800835-5

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 219

AUDIENCE

Data Management Professionals
and Practitioners

Multi-Domain Master Data Management

Advanced MDM and Data Governance in Practice

Mark Allen Manager, Enterprise Data Governance, WellPoint, Inc.,
Colorado, USA.

Dalton Cervo Founder of Data Gap Consulting, Colorado, USA.

MK
MORAN KAUFMANN

A practical guide to help planners and practitioners work through the challenges of a multi-domain master data management (MDM) implementation

KEY FEATURES

- Provides a logical order toward planning, implementation, and ongoing management of multi-domain MDM from a program manager and data steward perspective.
- Provides detailed guidance, examples and illustrations for MDM practitioners to apply these insights to their strategies, plans, and processes.
- Covers advanced MDM strategy and instruction aimed at improving data quality management, lowering data maintenance costs, and reducing corporate risks by applying consistent enterprise-wide practices for the management and control of master data.

DESCRIPTION

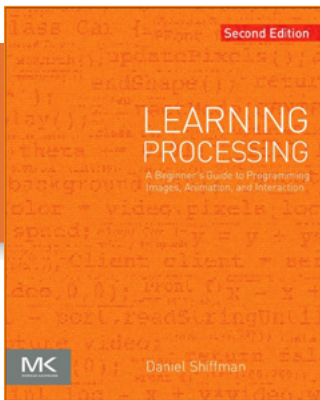
Multi-Domain Master Data Management delivers practical guidance and specific instruction to help guide planners and practitioners through the challenges of a multi-domain master data management (MDM) implementation. Authors Mark Allen and Dalton Cervo bring their expertise to you in the only reference you need to help your organization take master data management to the next level by incorporating it across multiple domains. Written in a business friendly style with sufficient program planning guidance, this book covers a comprehensive set of topics and advanced strategies centered on the key MDM disciplines of Data Governance, Data Stewardship, Data Quality Management, Metadata Management, and Data Integration.

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Learning Processing, 2e

A Beginner's Guide to Programming Images, Animation, and Interaction

Daniel Shiffman Tisch School of the Arts, New York University, New York, NY, USA



Learn the fundamentals of computer programming within a visual playground!

A Volume in the The Morgan Kaufmann Series in Computer Graphics.

KEY FEATURES

- A friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages
- No previous experience required—this book is for the true programming beginner!
- Step-by-step examples, thorough explanations, hands-on exercises, and sample code supports your learning curve

DESCRIPTION

This book teaches the basic building blocks of programming needed to create cutting-edge graphics applications including interactive art, live video processing, and data visualization.

A unique lab-style manual, this book gives graphic and web designers, artists, illustrators, and anyone interested in learning to code a jumpstart on working with the Processing programming environment by providing instruction on the basic principles of the language, followed by careful explanations of advanced techniques.

From algorithmic design to data visualization, to computer vision and 3D graphics, this book teaches object-oriented programming from the ground up within the fascinating context of interactive visual media and creative coding. It is also supported by a companion website (learningprocessing.com), which includes all examples running in the browser using HTML5 canvas and p5.js, downloadable versions of all source code, answers to select chapter exercises, and over twenty hours of companion video lessons.

ISBN: 978-0-12-394443-6

PREVIOUS EDITION ISBN:

978-0-12-373602-4

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 542

AUDIENCE

Graphic designers and visual artists without programming background who want to learn programming. Students in college and graduate courses in interactive media or visual computing, and for self-study.

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MULTISCREEN UX DESIGN

DEVELOPING FOR
A MULTITUDE OF DEVICES

— Wolfram Nagel

MK

ISBN: 978-0-12-802729-5

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 316

AUDIENCE

UX Researchers and Designers, UX
Students, mobile designers

Multiscreen UX Design

Developing for a Multitude of Devices

Wolfram Nagel UX and Conceptual Designer (Head of UX), SETU GmbH,
Schwäbisch Gmünd, Germany.

MK
MORIAN KAUFMANN

A holistic approach to UX professionals for designing across multiple screens

KEY FEATURES

- A hands-on, practical guide to UX design for how users approach content – across more than one screen at a time
- Discusses devices, users, and their practices
- Includes best practices, real-world examples, and tips and tricks
- A preface written by Scott Jenson

DESCRIPTION

People today use technology on different devices in different locations. Users expect to access information on all relevant screens and across multiple channels through smartphones, tablets, laptops/desktops, smart (internet-connected) TVs, and other devices, such as smartwatches for example. Multiscreen is no longer a nice add-on, it's a requirement. In this environment, user experience needs to cater to multiple devices.

This book provides a holistic approach that will help UX professionals to offer a hands-on guide for UX design across multiple screens. It presents an opportunity to learn how to cater designs for customers. Readers will find patterns, strategies, examples and case studies, methodologies, and insights to help inspire them to develop a viable strategy for their own digital products and services. UX professionals will walk through important elements of multiscreen UX:

- Investigating the devices and their capabilities
- Understanding the users and their capabilities
- Considering the context in which users use these devices
- Navigating next generation information experiences and the future of content management
- Designing content and UI architecture for multiscreen projects

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Presumptive Design

Design Provocations for Innovation

Leo Frishberg Product Design Manager, Intel, Portland, Oregon, USA
Charles Lambdin User Experience Researcher and Designer, Intel Corporation, Portland, Oregon, USA

MK
MORAN KAUFMANN

ISBN: 978-0-12-803086-8

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 414

AUDIENCE

Experienced designers, developers, analysts, managers, and business leaders

Everything you know about the future is wrong.

Frishberg and Lambdin have discovered the magic glue that binds design thinking to agile. In *Presumptive Design*, they boil down the essence of both, mix it all together, and package it up with a bow. The result is a clear, powerful, and brilliantly practical process. Product teams who struggle to balance human-centricity with speed will love this book. - Leah Buley, Author, *A UX Team of One*

This book lays out a passionate, compelling case about a crucial yet under-recognized truth in human-centered work: the acts of "design" and "research" are inextricable. Thanks to this book's ample theoretical frameworks and practical guidelines we can revel in that entanglement, to the benefit of our products, our designs and our users. - Steve Portigal, Author, *Interviewing Users: How To Uncover Compelling Insights*

Presumptive Design is a powerful approach that has fundamentally changed my perspective on design research. This is a thoughtful and readable book—a comprehensive resource for practitioners, backed by a wealth of relevant research. Overcome project start inertia, embrace failure, and reach consensus quicker with PrD. - Jim Kalbach, Author, *Mapping Experiences and Designing Web Navigation*

KEY FEATURES

- Provides actionable approaches to inform strategy and problem definition through design thinking
- Offers a design-based research method to complement existing market, ethnographic and customer research methods
- Demonstrates a powerful technique for identifying disruptive innovation early in the innovation pipeline by putting customers first
- Presents each concept with case studies and exploration of risk factors involved including warnings for situations in which the technique can be misapplied

DESCRIPTION

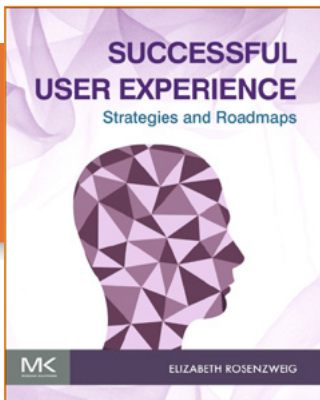
Everything you know about the future is wrong. *Presumptive Design: Design Provocations for Innovation* is for people "inventing" the future: future products, services, companies, strategies and policies. It introduces a design-research method that shortens time to insights from months to days. Presumptive Design is a fundamentally agile approach to identifying your audiences' key needs. Offering rapidly crafted artifacts, your teams collaborate with your customers to identify preferred and profitable elements of your desired outcome. Presumptive Design focuses on your users' problem space, informing your business strategy, your project's early stage definition, and your innovation pipeline. Comprising discussions of design theory with case studies and how-to's, the book offers business leadership, management and innovators the benefits of design thinking and user experience in the context of early stage problem definition. Presumptive Design is an advanced technique and quick to use: within days of reading this book, your research and design teams can apply the approach to capture a risk-reduced view of your future.

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ISBN: 978-0-12-800985-7

PUB DATE: October 2015

FORMAT: Paperback

PAGES: c. 344

AUDIENCE

User experience professionals working with product development engineers and teams, as well as graduate researchers in the field.

Successful User Experience: Strategies and Roadmaps

Elizabeth Rosenzweig Principal Consultant, User Experience Center, and Adjunct Faculty, Human Factors and Information Design, Bentley University, USA.



A hands-on approach to designing and implementing a successful User Experience

KEY FEATURES

- Uses strategic models that focus product design and development
- Teaches how to decipher what tool or methodology is right for a given moment, project, or a specific team
- Presents tactics on how to understand how to connect the dots between tools, data, and design
- Provides actionable steps and case studies that help users develop a complete strategy, from the big picture of product design, development, and commercialization, to how UX can help create stronger products
- Case studies in each chapter to aid learning

DESCRIPTION

Successful User Experience: Strategy and Roadmaps provides you with a hands-on guide for pulling all of the User Experience (UX) pieces together to create a strategy that includes tactics, tools, and methodologies. Leveraging material honed in user experience courses and over 25 years in the field, the author explains the value of strategic models to refine goals against available data and resources. You will learn how to think about UX from a high level, design the UX while setting goals for a product or project, and how to turn that into concrete actionable steps. After reading this book, you'll understand:

- How to bring high-level planning into concrete actionable steps
- How Design Thinking relates to creating a good UX
- How to set UX Goals for a product or project
- How to decide which tool or methodology to use at what point in product lifecycle

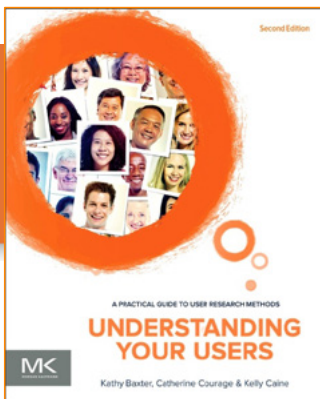
This book takes UX acceptance as a point of departure, and builds on it with actionable steps and case studies to develop a complete strategy, from the big picture of product design, development and commercialization, to how UX can help create stronger products. This is a must-have book for your complete UX library.

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Understanding Your Users, 2e

A Practical Guide to User Research Methods

Kathy Baxter Staff User Experience Researcher & UX Infrastructure Manager at Google, Mountain View, CA

Catherine Courage SVP of Customer Experience, Citrix, San Francisco, CA, USA

Kelly Caine School of Computing, Clemson University, Clemson, SC, USA

MK
MORGAN KAUFMANN

This completely new and revised edition teaches user-centered design with this comprehensive and practical compendium of process, methodology, and cutting-edge thinking.

A Volume in the Interactive Technologies Series.

ISBN: 978-0-12-800232-2

PREVIOUS EDITION ISBN:

978-1-55860-935-8

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 534

AUDIENCE

UX professionals and students

KEY FEATURES

- Completely new and revised edition includes 30+% new content!
- Discover the foundation you need to prepare for any user research activity and ensure that the results are incorporated into your products
- Includes all new case studies for each method from leaders in industry and academia

DESCRIPTION

This new and completely updated edition is a comprehensive, easy-to-read, "how-to" guide on user research methods. You'll learn about many distinct user research methods and also pre- and post-method considerations such as recruiting, facilitating activities or moderating, negotiating with product development teams/customers, and getting your results incorporated into the product. For each method, you'll understand how to prepare for and conduct the activity, as well as analyze and present the data - all in a practical and hands-on way.

Each method presented provides different information about the users and their requirements (e.g., functional requirements, information architecture). The techniques can be used together to form a complete picture of the users' needs or they can be used separately throughout the product development lifecycle to address specific product questions. These techniques have helped product teams understand the value of user experience research by providing insight into how users behave and what they need to be successful. You will find brand new case studies from leaders in industry and academia that demonstrate each method in action.

This book has something to offer whether you are new to user experience or a seasoned UX professional. After reading this book, you'll be able to choose the right user research method for your research question and conduct a user research study. Then, you will be able to apply your findings to your own products.

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Ensuring Digital Accessibility through Process and Policy

Jonathan Lazar Professor, Department of Computer and Information Sciences, Towson University and Shutzer Fellow, Harvard University

Daniel Goldstein Partner, Brown, Goldstein & Levy, Baltimore, MD, USA

Anne Taylor Senior Program Manager in the Trusted Experience Team at Microsoft and Director of Access Technology, National Federation of the Blind's Jernigan Institute



Provides developers, designers, managers, policymakers, and lawyers with an understanding of why digital accessibility is important, and best practices for implementing accessibility in companies, governments, and universities.

ISBN: 978-0-12-800646-7

PUB DATE: June 2015

FORMAT: Paperback

PAGES: c. 230

AUDIENCE

UX professionals/ designers and information technology professionals

KEY FEATURES

- Learn about the societal and organizational benefits of making information technology accessible for people with disabilities
- Understand the interface guidelines, accessibility evaluation methods, and compliance monitoring techniques, needed to ensure accessible content and technology.
- Understand the various laws and regulations that require accessible technology
- Learn from case studies of organizations that are successfully implementing accessibility in their technologies and digital content

DESCRIPTION

Ensuring Digital Accessibility through Process and Policy provides readers with a must-have resource to digital accessibility from both a technical and policy perspective. Inaccessible digital interfaces and content often lead to forms of societal discrimination that may be illegal under various laws. This book is unique in that it provides a multi-disciplinary understanding of digital accessibility. The book discusses the history of accessible computing, an understanding of why digital accessibility is socially and legally important, and provides both technical details (interface standards, evaluation methods) and legal details (laws, lawsuits, and regulations). The book provides real-world examples throughout, highlighting organizations that are doing an effective job with providing equal access to digital information for people with disabilities. This isn't a book strictly about interface design, nor is it a book strictly about law. For people who are charged with implementing accessible technology and content, this book will serve as a one-stop guide to understanding digital accessibility, offering an overview of current laws, regulations, technical standards, evaluation techniques, as well as best practices and suggestions for implementing solutions and monitoring for compliance.

This combination of skills from the three authors—law, technical, and research, with experience in both corporate, government, and educational settings, is unique to this book, and does not exist in any other book about any aspect of IT accessibility. The authors' combination of skills marks a unique and valuable perspective, and provides insider knowledge on current best practices, corporate policies, and technical instructions. Together, we can ensure that the world of digital information is open to all users.

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Communicating the UX Vision

How to fix 13 communication and collaboration anti-patterns that block good design



ISBN: 978-0-12-420197-2

PUB DATE: May 2015

FORMAT: Paperback

PAGES: c. 330

AUDIENCE

Interaction Designers, User Experience Designers, Graphic Designers, Product Designers

Communicating the UX Vision

13 Anti-Patterns That Block Good Ideas

Martina Schell User Experience consultant

James O'Brien UX Designer and experienced Agile practitioner

MK
MORAN KAUFMANN

Identifies the 13 main challenges designers face when they talk about their work, providing communication strategies so that a better design, not a louder argument, is what makes it into the world

"Great design doesn't just happen on the screen; it also demands well-designed communication. Let this invaluable book be your guide." - *Cennydd Bowles, Design Manager at Twitter*

"I've made all these mistakes but you shouldn't have to. These are real practical remedies to everyday problems in the design industry and you should put them to work right away." - *Stuart Eccles, co-founder of Made by Many*

"A valuable and well organised communicative toolbox for design professionals and students aiming to master the tightrope of fast paced and multi-disciplinary design projects!" - *Martin Feuz, Head of BA in Interaction Design. Zurich University of the Arts*

"An essential handbook to help you work better with clients, stakeholders and your team." - *Johanna Kollmann, independent product strategist at Us And The Machines Ltd*

KEY FEATURES

- Learn presentation tips that make stakeholders and other departments take your designs more seriously
- Uncover valuable techniques to make feedback sessions more productive
- Understand how to improve empathy with business stakeholders and learn to speak their language better
- Discover how to better understand your behavior and identify your personal anti-patterns

DESCRIPTION

This book identifies the 13 main challenges designers face when they talk about their work and provides communication strategies so that a better design, not a louder argument, is what makes it into the world.

It is a fact that we all want to put great design into the world, but no product ever makes it out of the building without rounds of reviews, feedback, and signoff. As an interaction or UX designer, you've felt the general trend toward faster development, more work, and less discussion. As we spend time crafting, we become attached to our own ideas and it gets all too easy to react to feedback emotionally or dismiss it, when we should be taking the time to decode it and explain or adapt the design.

Communicating the UX Vision helps you identify the skills and behavioral patterns to present your work in more persuasive ways, and respond more constructively to feedback from coworkers and stakeholders.

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CONCEPTUAL DESIGN FOR INTERACTIVE SYSTEMS

Designing for Performance and User Experience

MK

Avi Parush

ISBN: 978-0-12-419969-9

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 150

AUDIENCE

UX professionals engaged in design and testing of interactive systems.

Conceptual Design for Interactive Systems

Designing for Performance and User Experience

Avi Parush The Israel Institute of Technology

MK
MORAN KAUFMANN

Offers a field-proven, comprehensive resource that guides designers step-by-step through the design of conceptual models

"I'm pleased to see Avi Parush publishing this book. He provides us with a well-thought out, well-illustrated analytical framework and methodology to bring to bear on a wide range of interface/interaction design and development problems. I personally have long believed and tried to practice the idea that interaction and interface architecture/design can and should be done separately from actual implementation during software development. An intertwined and intermingled focus on implementation, with implementation driving design thinking, often leads to premature choices that close off later opportunities created by having learned more about the user's tasks and goals. The book provides us with a way of thinking about interface/interaction design and development that helps sort through the often confusing demands created by the need to do both, often iteratively. I think that both the experienced professional and the aspiring interaction designer will be able to find value in the framework and methodology described by Avi Parush. His work is grounded in both knowledge of cognition and in experience with actual design and development." --Thomas Hewett, Ph.D., Professor Emeritus of Psychology and of Computer Science, Department of Psychology, Drexel University

KEY FEATURES

- Provides a practical, guiding approach that can be immediately applied to everyday practice and study
- Complete analysis and explanation of conceptual modeling and its value
- Discusses the implications of effective and poor conceptual models
- Presents a step-by-step process, allowing users to build the essential foundation for a successful interactive system

DESCRIPTION

Conceptual Design for Interactive Systems: Designing for Performance and User Experience provides readers with a comprehensive guide to the steps necessary to take the leap from research and requirements to product design. The text presents a proven strategy for transforming research into a conceptual model, discussing the iterative process that allows users to build the essential foundation for a successful interactive system, while also taking the users' mental model into consideration.

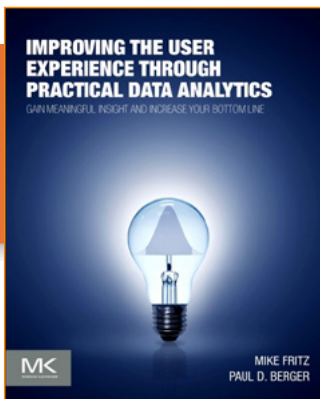
Readers will gain a better understanding of the framework they need to perceive, understand, and experience their tasks and processes in the context of their products. The text is ideal for those seeking a proven, innovative strategy for meeting goals through intuitive and effective thinking.

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ISBN: 978-0-12-800635-1

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 374

AUDIENCE

user experience researchers and professionals, including usability managers and researchers, interaction designers

Improving the User Experience through Practical Data Analytics

Gain Meaningful Insight and Increase Your Bottom Line

Mike Fritz Usability Engineer, Peoplefluent, Massachusetts, USA

Paul D. Berger Visiting Scholar and Professor of Marketing, Bentley University, Massachusetts, USA



Make data-driven UX design decisions using statistical techniques to gain insight from the ever-increasing amounts of user data

KEY FEATURES

- Practical guidance on choosing the right data analysis technique for each project.
- Real-world examples to build a theoretical and practical understanding of key concepts from consumer and financial verticals.
- A step-by-step methodology for applying each predictive technique, including detailed examples.
- A detailed guide to interpreting the data output and examples of how to effectively present the findings in a report.
- Exercises to learn the techniques, along with access to sample data on the companion website.

DESCRIPTION

Improving the User Experience through Practical Data Analytics shows you how to make UX design decisions based on data—not hunches. Authors Fritz and Berger help the UX professional recognize the enormous potential of user data that is collected as a natural by-product of routine UX research methods, including moderated usability tests, unmoderated usability tests, surveys, and contextual inquiries. Then, step-by-step, they explain how to utilize both descriptive and predictive statistical techniques to gain meaningful insight with that data. By mastering the use of these techniques, you'll delight your users, increase your bottom line and gain a powerful competitive advantage for your company—and yourself.

Key features include:

- *Practical advice on choosing the right data analysis technique for each project.*
- *A step-by-step methodology for applying each technique, including examples and scenarios drawn from the UX field.*
- *Detailed screen shots and instructions for performing the techniques using Excel (both for PC and Mac) and SPSS.*
- *Clear and concise guidance on interpreting the data output.*
- *Exercises to practice the techniques, along with access to sample data on the companion website.*

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Sustainable Wireless Network-on-Chip Architectures

Jacob Murray School of Electrical Engineering and Computer Science, Washington State Univ. Everett, WA

Paul Wettin Marvell Semiconductor Inc., Boise, ID

Paul Pratim Pande School of Electrical Engineering, Washington State Univ., Pullman, WA

Behrooz Shirazi School of Electrical Engineering, Washington State Univ., Pullman, WA

MK
MORAN KAUFMANN

This instructive book focuses on developing novel Dynamic Thermal Management (DTM) and Dynamic Voltage and Frequency Scaling (DVFS) algorithms that exploit the advantages inherent in Wireless Network-on-Chip architectures to create a sustainable NoC platform for future many-core chips

ISBN: 978-0-12-803625-9

PUB DATE: June 2016

FORMAT: Paperback

PAGES: c. 120

AUDIENCE

graduate level research interest. Professionals performing research corresponding to sustainable computing or networks-on-chip would find interest in this material. Senior-level undergraduate or graduate student technical elective courses; the topics described in this book would be applicable to advanced courses in VLSI.

KEY FEATURES

- Defines new complex, sustainable network-on-chip architectures to reduce network latency and energy
- Develops topology-agnostic dynamic thermal management and dynamic voltage and frequency scaling techniques
- Describes joint strategies for network- and core-level sustainability
- Discusses novel algorithms that exploit the advantages inherent in Wireless Network-on-Chip architectures

DESCRIPTION

Sustainable Wireless Network-on-Chip Architectures focuses on developing novel Dynamic Thermal Management (DTM) and Dynamic Voltage and Frequency Scaling (DVFS) algorithms that exploit the advantages inherent in WiNoC architectures. The methodologies proposed—combined with extensive experimental validation—collectively represent efforts to create a sustainable NoC architecture for future many-core chips. Current research trends show a necessary paradigm shift towards green and sustainable computing. As implementing massively parallel energy-efficient CPUs and reducing resource consumption become standard, and their speed and power continuously increase, energy issues become a significant concern.

The need for promoting research in sustainable computing is imperative. As hundreds of cores are integrated in a single chip, designing effective packages for dissipating maximum heat is infeasible. Moreover, technology scaling is pushing the limits of affordable cooling, thereby requiring suitable design techniques to reduce peak temperatures. Addressing thermal concerns at different design stages is critical to the success of future generation systems. DTM and DVFS appear as solutions to avoid high spatial and temporal temperature variations among NoC components, and thereby mitigate local network hotspots.

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System on Chip Interfaces for Low Power Design

Sanjeeb Mishra Validation Architect, Mobile Communications Group - Tablet Product Development, Intel.

Neeraj Kumar Singh Platform Architect for tablet platforms at Intel
Vijaykrishnan Rousseau Technical Lead, Visual and Parallel Computing Group, Intel

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MORGAN KAUFMANN

A guide to standard interfaces for SoC development for embedded systems

KEY FEATURES

- Provides a top-down guide to SoC interfaces for memory, multimedia, sensors, display, and communication
- Explores the underlying protocols and architecture of each interface with multiple examples
- Guides through competing standards and explains how different interfaces might interact or interfere with each other
- Explains challenges in system design, validation, debugging and their impact on development

DESCRIPTION

System on Chip Interfaces for Low Power Design provides a top-down understanding of interfaces available to SoC developers, not only the underlying protocols and architecture of each, but also how they interact and the tradeoffs involved. The book offers a common context to help understand the variety of available interfaces and make sense of technology from different vendors aligned with multiple standards. With particular emphasis on power as a factor, the authors explain how each interface performs in various usage scenarios and discuss their advantages and disadvantages. Readers learn to make educated decisions on what interfaces to use when designing systems and gain insight for innovating new/custom interfaces for a subsystem and their potential impact.

ISBN: 978-0-12-801630-5

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 390

AUDIENCE

Software/hardware engineers, system architects, technical program and product managers involved in architecting, designing, developing, validating, reviewing and deploying systems based on SoC, as well as graduate students studying this field.

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HETEROGENEOUS SYSTEM ARCHITECTURE

A NEW COMPUTE PLATFORM INFRASTRUCTURE



EDITED BY
WEN-MEI W. HWU

ISBN: 978-0-12-800386-2

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 190

AUDIENCE

Corporate software application developers; computer science researchers at universities; students in computer architecture, distributed computing, or software engineering courses.

Heterogeneous System Architecture

A new compute platform infrastructure

Wen-mei W. Hwu CTO of MulticoreWare and professor specializing in compiler design, computer architecture, microarchitecture, and parallel processing, University of Illinois at Urbana-Champaign

MK
MORAN KAUFMANN

A practical guide to understanding the HSA platform

KEY FEATURES

- Provides clear and concise explanations of key HSA concepts and fundamentals by expert HSA Specification contributors
- Explains how performance-bound programming algorithms and application types can be significantly optimized by utilizing HSA hardware and software features
- Presents HSA simply, clearly, and concisely without reading the detailed HSA Specification documents
- Demonstrates ideal mapping of processing resources from CPUs to many other heterogeneous processors that comply with HSA Specifications

DESCRIPTION

Heterogeneous Systems Architecture - a new compute platform infrastructure presents a next-generation hardware platform, and associated software, that allows processors of different types to work efficiently and cooperatively in shared memory from a single source program. HSA also defines a virtual ISA for parallel routines or kernels, which is vendor and ISA independent thus enabling single source programs to execute across any HSA compliant heterogeneous processor from those used in smartphones to supercomputers.

The book begins with an overview of the evolution of heterogeneous parallel processing, associated problems, and how they are overcome with HSA. Later chapters provide a deeper perspective on topics such as the runtime, memory model, queuing, context switching, the architected queuing language, simulators, and tool chains. Finally, three real world examples are presented, which provide an early demonstration of how HSA can deliver significantly higher performance thru C++ based applications. Contributing authors are HSA Foundation members who are experts from both academia and industry. Some of these distinguished authors are listed here in alphabetical order: **Yeh-Ching Chung, Benedict R. Gaster, Juan Gómez-Luna, Derek Howey, Lee Howes, Shih-Hao Hung, Thomas B. Jablin, David Kaeli, Phil Rogers, Ben Sander, I-Jui (Ray) Sung.**

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Shared Memory Application Programming

Concepts and Strategies in Multicore Application Programming

Victor Alessandrini Emeritus Research Director, Centre National pour la Recherche Scientifique (CNRS), France



Presents the key concepts and applications of multithreaded programming

KEY FEATURES

- Designed to introduce threading and multicore programming to teach modern coding strategies for developers in applied computing
- Leverages author Victor Alessandrini's rich experience to explain each platform's design strategies, analyzing the focus and strengths underlying their often complementary capabilities, as well as their interoperability
- Includes complete, up-to-date discussions of OpenMP 4.0 and TBB
- Based on the author's training sessions, including information on source code and software libraries which can be repurposed

DESCRIPTION

Shared Memory Application Programming presents the key concepts and applications of parallel programming, in an accessible and engaging style applicable to developers across many domains. Multithreaded programming is today a core technology, at the basis of all software development projects in any branch of applied computer science. This book guides readers to develop insights about threaded programming and introduces two popular platforms for multicore development: OpenMP and Intel Threading Building Blocks (TBB). Author Victor Alessandrini leverages his rich experience to explain each platform's design strategies, analyzing the focus and strengths underlying their often complementary capabilities, as well as their interoperability.

The book is divided into two parts: the first develops the essential concepts of thread management and synchronization, discussing the way they are implemented in native multithreading libraries (Windows threads, Pthreads) as well as in the modern C++11 threads standard. The second provides an in-depth discussion of TBB and OpenMP including the latest features in OpenMP 4.0 extensions to ensure readers' skills are fully up to date. Focus progressively shifts from traditional thread parallelism to modern task parallelism deployed by modern programming environments. Several chapters include examples drawn from a variety of disciplines, including molecular dynamics and image processing, with full source code and a software library incorporating a number of utilities that readers can adapt into their own projects.

ISBN: 978-0-12-803761-4

PUB DATE: October 2015

FORMAT: Paperback

PAGES: c. 528

AUDIENCE

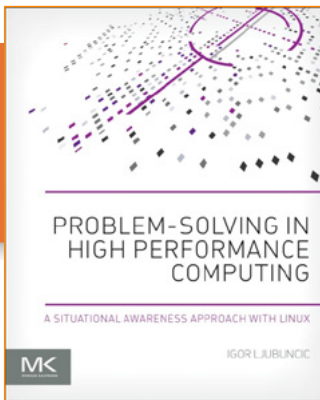
Engineers and computer scientists working in applied computing with basic C/C++ programming skills

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Problem-solving in High Performance Computing

A Situational Awareness Approach with Linux

Igor Ljubuncic Igor Ljubuncic is a lead engineer with Rackspace, the #1 managed cloud company.

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MORAN KAUFMANN

This book provides an insider's look from Intel developers who explain their methodology for troubleshooting complex, high-performance systems that includes a cohesive approach that highlights the difference between standalone system troubleshooting and complex problem-solving in large, mission critical environments.

ISBN: 978-0-12-801019-8

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 304

AUDIENCE

Professional system administrators, power users and developers, engineers, and solutions architects.

KEY FEATURES

- Provides insider perspectives on challenges in high performance environments with thousands of servers, millions of cores, distributed data centers, and petabytes of shared data
- Covers analysis, troubleshooting, and system optimization, from initial diagnostics to deep dives into kernel crash dumps
- Presents macro principles that appeal to a wide range of users and various real-life, complex problems
- Includes examples from 24/7 mission-critical environments with specific HPC operational constraints

DESCRIPTION

Problem-Solving in High Performance Computing: A Situational Awareness Approach with Linux focuses on understanding giant computing grids as cohesive systems. Unlike other titles on general problem-solving or system administration, this book offers a cohesive approach to complex, layered environments, highlighting the difference between standalone system troubleshooting and complex problem-solving in large, mission critical environments, and addressing the pitfalls of information overload, micro, and macro symptoms, also including methods for managing problems in large computing ecosystems.

The authors offer perspective gained from years of developing Intel-based systems that lead the industry in the number of hosts, software tools, and licenses used in chip design. The book offers unique, real-life examples that emphasize the magnitude and operational complexity of high performance computer systems.

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High Speed Digital Design

Design of High Speed Interconnects and Signaling

Hanqiao Zhang Intel, DuPont, WA, USA

Steve Krooswyk signal integrity lead for PCI Express in Intel's Enterprise Platform Technology Division (EPTD), Intel, Columbia, SC, USA

Jeff Ou Jeffrey Ou, Tech Lead in Server Development Group, Intel

MK
MORGAN KAUFMANN

Holistic guide to signal integrity and interconnects with insider insights of Intel authors

KEY FEATURES

- Provides knowledge and guidance in the design of high speed digital circuits
- Explores the latest developments in system design
- Covers everything that encompasses a successful printed circuit board (PCB) product
- Offers insight from Intel insiders about real-world high speed digital design

DESCRIPTION

High Speed Digital Design discusses the major factors to consider in designing a high speed digital system and how design concepts affect the functionality of the system as a whole. It will help you understand why signals act so differently on a high speed digital system, identify the various problems that may occur in the design, and research solutions to minimize their impact and address their root causes. The authors offer a strong foundation that will help you get high speed digital system designs right the first time.

Taking a systems design approach, *High Speed Digital Design* offers a progression from fundamental to advanced concepts, starting with transmission line theory, covering core concepts as well as recent developments. It then covers the challenges of signal and power integrity, offers guidelines for channel modeling, and optimizing link circuits. Tying together concepts presented throughout the book, the authors present Intel processors and chipsets as real-world design examples.

ISBN: 978-0-12-418663-7

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 262

AUDIENCE

Computer engineers, system designers, and students in these disciplines seeking knowledge and guidance in the design of high speed signaling and interconnects.

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Topics in Parallel and Distributed Computing

Introducing Concurrency in Undergraduate Courses

Edited by: **Sushil K Prasad** Georgia State University, USA

Anshul Gupta Principal RSM, IBM T.J. Watson Research Center, USA

Arnold L Rosenberg Northeastern University, USA

Alan Sussman University of Maryland, USA

Charles C Weems, Jr. University of Massachusetts, USA

MK
MOSEAN KAUFMANN

This book provides a cross-disciplinary approach for both those learning and teaching parallel and distributed computing, a field that continues to grow in numbers with application in computing devices containing CPU's and GPU's, including home and office PC's, laptops, and mobile devices.

ISBN: 978-0-12-803899-4

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 338

AUDIENCE

Professional engineers and computer scientists, and students in parallel computing.

KEY FEATURES

- Contributed and developed by the leading minds in parallel computing research and instruction
- Provides resources and guidance for those learning PDC as well as those teaching students new to the discipline
- Succinctly addresses a range of parallel and distributed computing topics
- Pedagogically designed to ensure understanding by experienced engineers and newcomers
- Developed over the past several years in conjunction with the IEEE technical committee on parallel processing (TCPP), which held several workshops and discussions on learning parallel computing and integrating parallel concepts

DESCRIPTION

Topics in Parallel and Distributed Computing provides resources and guidance for those learning PDC as well as those teaching students new to the discipline.

The pervasiveness of computing devices containing multicore CPUs and GPUs, including home and office PCs, laptops, and mobile devices, is making even common users dependent on parallel processing. Certainly, it is no longer sufficient for even basic programmers to acquire only the traditional sequential programming skills. The preceding trends point to the need for imparting a broad-based skill set in PDC technology.

However, the rapid changes in computing hardware platforms and devices, languages, supporting programming environments, and research advances, poses a challenge both for newcomers and seasoned computer scientists.

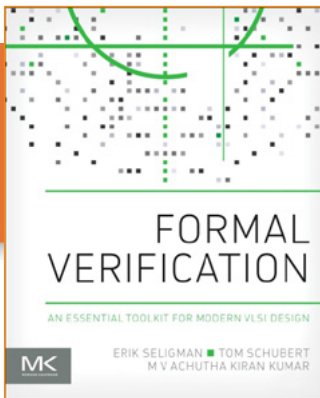
This edited collection has been developed over the past several years in conjunction with the IEEE technical committee on parallel processing (TCPP), which held several workshops and discussions on learning parallel computing and integrating parallel concepts into courses throughout computer science curricula.

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ISBN: 978-0-12-800727-3

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 392

AUDIENCE

Professional engineers involved in chip design or verification

Formal Verification

An Essential Toolkit for Modern VLSI Design

Erik Seligman Intel's Design Technology and Solutions division, supporting FV efforts for Intel projects worldwide

Tom Schubert formerly at Intel, now directing the ECE graduate track in Design Verification and Validation at Portland State University, Portland, Oregon.

M V Achutha Kiran Kumar Visual Platform Group, Intel, India

MK
MORAN KAUFMANN

Intel insiders demystify formal verification to improve circuit design and increase productivity

"...the authors thoroughly expressed their practical knowledge of this complex, and misunderstood topic, in an easy to read presentation...I strongly recommend this book to design and verification engineers who are contemplating, or are currently using formal verification..."--

VerificationAcademy.com, *Formal Verification*

KEY FEATURES

- Learn formal verification algorithms to gain full coverage without exhaustive simulation
- Understand formal verification tools and how they differ from simulation tools
- Create instant test benches to gain insight into how models work and find initial bugs
- Learn from Intel insiders sharing their hard-won knowledge and solutions to complex design problems

DESCRIPTION

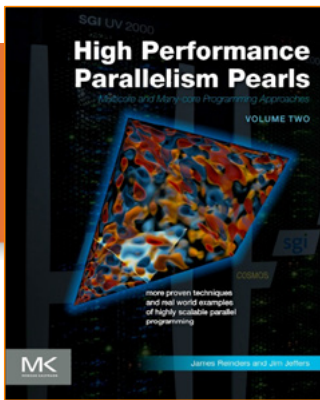
Formal Verification: An Essential Toolkit for Modern VLSI Design presents practical approaches for design and validation, with hands-on advice to help working engineers integrate these techniques into their work. Formal Verification (FV) enables a designer to directly analyze and mathematically explore the quality or other aspects of a Register Transfer Level (RTL) design without using simulations. This can reduce time spent validating designs and more quickly reach a final design for manufacturing. Building on a basic knowledge of SystemVerilog, this book demystifies FV and presents the practical applications that are bringing it into mainstream design and validation processes at Intel and other companies. After reading this book, readers will be prepared to introduce FV in their organization and effectively deploy FV techniques to increase design and validation productivity.

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ISBN: 978-0-12-803819-2

PUB DATE: July 2015

FORMAT: Paperback

PAGES: c. 572

AUDIENCE

computer engineers in high-performance computing and system developers in vertical domains hoping to leverage HPC

High Performance Parallelism Pearls Volume Two

Multicore and Many-core Programming Approaches

Jim Jeffers Principal Engineer, Engineering Manager, Technical Computing, Intel Corporation, New Hope, PA, USA

James Reinders Director, Chief Evangelist, Intel Software, Intel Corporation, Portland, OR, USA

MK
MORGAN KAUFMANN

Second collection of success stories leveraging parallelism in heterogeneous systems

KEY FEATURES

- Promotes write-once, run-anywhere coding, showing how to code for high performance on multicore processors and Xeon Phi
- Examples from multiple vertical domains illustrating real-world use of Xeon Phi coprocessors
- Source code available for download to facilitate further exploration

DESCRIPTION

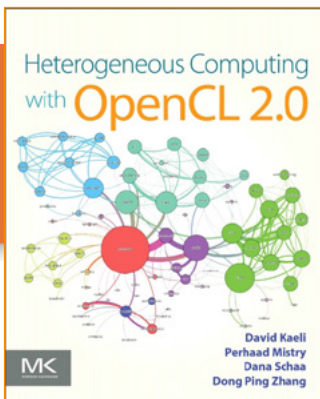
High Performance Parallelism Pearls Volume 2 offers another set of examples that demonstrate how to leverage parallelism. Similar to Volume 1, the techniques included here explain how to use processors and coprocessors with the same programming – illustrating the most effective ways to combine Xeon Phi coprocessors with Xeon and other multicore processors. The book includes examples of successful programming efforts, drawn from across industries and domains such as biomed, genetics, finance, manufacturing, imaging, and more. Each chapter in this edited work includes detailed explanations of the programming techniques used, while showing high performance results on both Intel Xeon Phi coprocessors and multicore processors. Learn from dozens of new examples and case studies illustrating "success stories" demonstrating not just the features of Xeon-powered systems, but also how to leverage parallelism across these heterogeneous systems.

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Heterogeneous Computing with OpenCL 2.0

David R. Kaeli Northeastern University, Boston, MA, USA

Perhaad Mistry Northeastern University, Boston, MA, USA

Dana Schaa Northeastern University, Boston, MA, USA

Dong Ping Zhang AMD, Sunnyvale, California, USA

MK
MORAN KAUFMANN

Revised with the latest changes in OpenCL 2.0

KEY FEATURES

- Updated content to cover the latest developments in OpenCL 2.0, including improvements in memory handling, parallelism, and imaging support
- Explanations of principles and strategies to learn parallel programming with OpenCL, from understanding the abstraction models to thoroughly testing and debugging complete applications
- Example code covering image analytics, web plugins, particle simulations, video editing, performance optimization, and more

DESCRIPTION

Heterogeneous Computing with OpenCL 2.0 teaches OpenCL and parallel programming for complex systems that may include a variety of device architectures: multi-core CPUs, GPUs, and fully-integrated Accelerated Processing Units (APUs). This fully-revised edition includes the latest enhancements in OpenCL 2.0 including:

- Shared virtual memory to increase programming flexibility and reduce data transfers that consume resources
- Dynamic parallelism which reduces processor load and avoids bottlenecks
- Improved imaging support and integration with OpenGL

Designed to work on multiple platforms, OpenCL will help you more effectively program for a heterogeneous future. Written by leaders in the parallel computing and OpenCL communities, this book explores memory spaces, optimization techniques, extensions, debugging and profiling. Multiple case studies and examples illustrate high-performance algorithms, distributing work across heterogeneous systems, embedded domain-specific languages, and will give you hands-on OpenCL experience to address a range of fundamental parallel algorithms.

ISBN: 978-0-12-801414-1

PREVIOUS EDITION ISBN:

9780124058941

PUB DATE: May 2015

FORMAT: Paperback

PAGES: c. 310

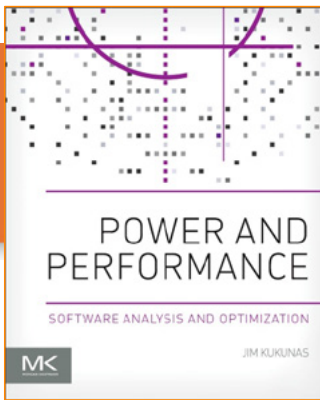
AUDIENCE

Software engineers, programmers,
hardware engineers, graduate
students

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Power and Performance

Software Analysis and Optimization

Jim Kukunas Software engineer, Intel's Open Source Technology Center, Hillsboro, OR, USA

MK
MORGAN KAUFMANN

Intel insider's guide to enabling performance in modern system architectures

KEY FEATURES

- Provides expert perspective from a key member of Intel's optimization team on how processors and memory systems influence performance
- Presents ideas to improve architectures running mobile, desktop, or enterprise platforms
- Demonstrates best practices for designing experiments and benchmarking throughout the software lifecycle
- Explains the importance of profiling and measurement to determine the source of performance issues

DESCRIPTION

Power and Performance: Software Analysis and Optimization is a guide to solving performance problems in modern Linux systems. Power-efficient chips are no help if the software those chips run on is inefficient. Starting with the necessary architectural background as a foundation, the book demonstrates the proper usage of performance analysis tools in order to pinpoint the cause of performance problems, and includes best practices for handling common performance issues those tools identify.

ISBN: 978-0-12-800726-6

PUB DATE: April 2015

FORMAT: Paperback

PAGES: c. 282

AUDIENCE

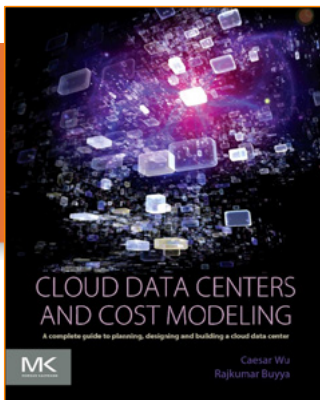
Software engineers seeking to measure and improve the performance and power efficiency of their applications.

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Cloud Data Centers and Cost Modeling

A Complete Guide To Planning, Designing and Building a Cloud Data Center

Caesar Wu Principle Research Fellow, University of Melbourne, Australia, and Senior Domain Specialist, Telstra

Rajkumar Buyya Prof. of Computer Science, University of Melbourne, Australia, and founding CEO, Manjrasoft Pty Ltd.

MK
MORAN KAUFMANN

Bridges data center technology and management in one book

"For those looking for a reference to guide them through every aspect of a cloud data center design, *Cloud Data Centers and Cost Modeling* is without a doubt the best reference available." --
RSAConference.com, *Cloud Data Centers and Cost Modeling*

ISBN: 978-0-12-801413-4

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 826

AUDIENCE

Systems analysts or operations professionals seeking guidance on the design and management of cloud data centers

KEY FEATURES

- Explains how to balance cloud computing functionality with data center efficiency
- Covers key requirements for power management, cooling, server planning, virtualization, and storage management
- Describes advanced methods for modeling cloud computing cost including Real Option Theory and Monte Carlo Simulations
- Blends theoretical and practical discussions with insights for developers, consultants, and analysts considering data center development

DESCRIPTION

Cloud Data Centers and Cost Modeling establishes a framework for strategic decision-makers to facilitate the development of cloud data centers. Just as building a house requires a clear understanding of the blueprints, architecture, and costs of the project; building a cloud-based data center requires similar knowledge. The authors take a theoretical and practical approach, starting with the key questions to help uncover needs and clarify project scope. They then demonstrate probability tools to test and support decisions, and provide processes that resolve key issues. After laying a foundation of cloud concepts and definitions, the book addresses data center creation, infrastructure development, cost modeling, and simulations in decision-making, each part building on the previous. In this way the authors bridge technology, management, and infrastructure as a service, in one complete guide to data centers that facilitates educated decision making.

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ISBN: 978-0-12-801733-3

PUB DATE: March 2016

FORMAT: Paperback

PAGES: c. 896

AUDIENCE

Undergraduate students in computer science, computer engineering and electrical engineering courses in computer organization/architecture or computer design (ranging from sophomore required courses to senior elective). Professional digital system designers, programmers, application developers, and system software developers.

Computer Organization and Design

The Hardware Software Interface: ARM Edition

David A. Patterson Pardee Professor of Computer Science, University of California, Berkeley, USA

John L. Hennessy President, Stanford University, Palo Alto, CA, USA

MK
MORGAN KAUFMANN

Features the ARMv8-A architecture to present the fundamentals of computer system design!

A Volume in the The Morgan Kaufmann Series in Computer Architecture and Design.

DESCRIPTION

The new ARM Edition of *Computer Organization and Design* features a subset of the ARMv8-A architecture, which is used to present the fundamentals of hardware technologies, assembly language, computer arithmetic, pipelining, memory hierarchies, and I/O.

With the post-PC era now upon us, *Computer Organization and Design* moves forward to explore this generational change with examples, exercises, and material highlighting the emergence of mobile computing and the Cloud. Updated content featuring tablet computers, Cloud infrastructure, and the ARM (mobile computing devices) and x86 (cloud computing) architectures is included.

An online companion Web site provides links to a free version of the ARMv8 Foundation Platform (a virtual platform incorporating an AArch64 architecture simulation model), as well as additional advanced content for further study, appendices, glossary, references, and recommended reading.

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PROGRAMMING LANGUAGE PRAGMATICS

Michael L. Scott



MK

ISBN: 978-0-12-410409-9

PREVIOUS EDITION ISBN:
978-0-12-374514-9

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 982

AUDIENCE

Upper-level undergraduate and graduate-level computer science students; programmers, systems and software engineers

Programming Language Pragmatics, 4e

Michael L. Scott University of Rochester, NY, USA

MK

MORAN KAUFMANN

The most comprehensive programming language textbook available today, featuring an integrated treatment of language design and language implementation. Users will find this a solid resource to help them understand the most important issues driving modern software development.

KEY FEATURES

- Updated coverage of the latest developments in programming language design, including C & C++11, Java 8, C# 5, Scala, Go, Swift, Python 3, and HTML 5
- Updated treatment of functional programming, with extensive coverage of OCaml
- New chapters devoted to type systems and composite types
- Unified and updated treatment of polymorphism in all its forms
- New examples featuring the ARM and x86 64-bit architectures

DESCRIPTION

Programming Language Pragmatics, Fourth Edition, is the most comprehensive programming language textbook available today. It is distinguished and acclaimed for its integrated treatment of language design and implementation, with an emphasis on the fundamental tradeoffs that continue to drive software development.

The book provides readers with a solid foundation in the syntax, semantics, and pragmatics of the full range of programming languages, from traditional languages like C to the latest in functional, scripting, and object-oriented programming. This fourth edition has been heavily revised throughout, with expanded coverage of type systems and functional programming, a unified treatment of polymorphism, highlights of the newest language standards, and examples featuring the ARM and x86 64-bit architectures.

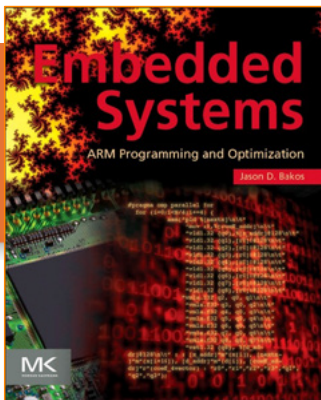
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Embedded Systems

ARM Programming and Optimization

Jason D. Bakos Computer Science and Engineering, University of South Carolina, Associate Editor, ACM Transactions on Reconfigurable Technology and Systems

MK
MORAN KAUFMANN

Combines an exploration of the ARM architecture and an examination of the facilities of Linux to show how program design can influence processor performance, providing practical guidance for embedded software design for modern embedded systems.

KEY FEATURES

- Covers three ARM instruction set architectures, the ARMv6 and ARMv7-A, as well as three ARM cores, the ARM11 on the Raspberry Pi, Cortex-A9 on the Xilinx Zynq 7020, and Cortex-A15 on the NVIDIA Tegra K1
- Describes how to fully leverage the facilities offered by the Linux operating system, including the Linux GCC compiler toolchain and debug tools, performance monitoring support, OpenMP multicore runtime environment, video frame buffer, and video capture capabilities
- Designed to accompany and work with most of the low cost Linux/ARM embedded development boards currently available

DESCRIPTION

Embedded Systems: ARM Programming and Optimization combines an exploration of the ARM architecture with an examination of the facilities offered by the Linux operating system to explain how various features of program design can influence processor performance. It demonstrates methods by which a programmer can optimize program code in a way that does not impact its behavior but improves its performance. Several applications, including image transformations, fractal generation, image convolution, and computer vision tasks, are used to describe and demonstrate these methods. From this, the reader will gain insight into computer architecture and application design, as well as gain practical knowledge in the area of embedded software design for modern embedded systems.

ISBN: 978-0-12-800342-8

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 304

AUDIENCE

Professional programmers needing to understand embedded development, students in a course using ARM as the processor

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Digital Design and Computer Architecture

ARM Edition

Sarah Harris Assistant Professor of Engineering, Harvey Mudd College, Claremont, CA, USA

David Harris Associate Professor of Engineering, Harvey Mudd College, Claremont, CA, USA

MK
MORAN KAUFMANN

Takes the reader from the fundamentals of digital logic to the actual design of an ARM processor

KEY FEATURES

- Covers the fundamentals of digital logic design and reinforces logic concepts through the design of an ARM microprocessor.
- Features side-by-side examples of the two most prominent Hardware Description Languages (HDLs)—SystemVerilog and VHDL—which illustrate and compare the ways each can be used in the design of digital systems.
- Includes examples throughout the text that enhance the reader's understanding and retention of key concepts and techniques.
- The Companion website includes a chapter on I/O systems with practical examples that show how to use the Raspberry Pi computer to communicate with peripheral devices such as LCDs, Bluetooth radios, and motors.
- The Companion website also includes appendices covering practical digital design issues and C programming as well as links to CAD tools, lecture slides, laboratory projects, and solutions to exercises.

DESCRIPTION

Digital Design and Computer Architecture: ARM Edition takes a unique and modern approach to digital design. Beginning with digital logic gates and progressing to the design of combinational and sequential circuits, Harris and Harris use these fundamental building blocks as the basis for what follows: the design of an actual ARM processor. With over 75% of the world's population using products with ARM processors, the design of the ARM processor offers an exciting and timely application of digital design while also teaching the fundamentals of computer architecture. SystemVerilog and VHDL are integrated throughout the text in examples illustrating the methods and techniques for CAD-based circuit design. By the end of this book, readers will be able to build their own microprocessor and will have a top-to-bottom understanding of how it works. Harris and Harris have combined an engaging and humorous writing style with an updated and hands-on approach to digital design.

ISBN: 978-0-12-800056-4

PUB DATE: June 2015

FORMAT: Paperback

PAGES: c. 560

AUDIENCE

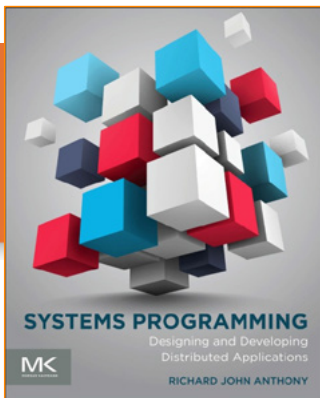
Students taking a course that combines digital logic and computer architecture or students taking a two-quarter sequence in digital logic and computer organization/architecture

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Systems Programming

Designing and Developing Distributed Applications

Richard Anthony Lecturer, University of Greenwich (UK), focusing on operating systems, networking, distributed systems, programming and embedded systems

MK
MORAN KAUFMANN

A comprehensive, self-contained introduction to designing and developing distributed applications

KEY FEATURES

- Explains key ideas from the ground up, in a self-contained style, with material carefully sequenced to make it easy to absorb and follow.
- Features a detailed case study that is designed to serve as a common point of reference and to provide continuity across the different technical chapters.
- Includes a 'putting it all together' chapter that looks at interesting distributed systems applications across their entire life-cycle from requirements analysis and design specifications to fully working applications with full source code.
- Ancillary materials include problems and solutions, programming exercises, simulation experiments, and a wide range of fully working sample applications with complete source code developed in C++, C# and Java.
- Special editions of the author's established 'workbenches' teaching and learning tools suite are included. These tools have been specifically designed to facilitate practical experimentation and simulation of complex and dynamic aspects of systems.

DESCRIPTION

Systems Programming: Designing and Developing Distributed Applications explains how the development of distributed applications depends on a foundational understanding of the relationship among operating systems, networking, distributed systems, and programming. Uniquely organized around four viewpoints (process, communication, resource, and architecture), the fundamental and essential characteristics of distributed systems are explored in ways which cut across the various traditional subject area boundaries. The structures, configurations and behaviours of distributed systems are all examined, allowing readers to explore concepts from different perspectives, and to understand systems in depth, both from the component level and holistically.

ISBN: 978-0-12-800729-7

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 26

AUDIENCE

Professional programmers who need to learn or understand distributed application development, and undergraduate or graduate students studying distributed systems, networking, operating systems, or application development.

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Certifiable Software Applications 1

Main Processes

Boulanger Jean-Louis



Certifiable Software Applications 1

Jean-Louis Boulanger

Main Processes



ISBN: 978-1-78548-117-8

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 240

DESCRIPTION

The objective of this first volume is to set the context of achieving a certifiable software application. The concept of a software application is presented along with the developments that have taken place (module, component and product line approach). The applicable standards are presented and the security principles are described and discussed. Finally, the requirements for mastering quality and configuration are explained.

This first volume establishes the need to achieve a certifiable application.

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Object-oriented Programming with Smalltalk

Harald Wertz Professor, Department of Information, Lab IA, Université Paris 8, Paris, France



Object Programming Handbook

Harald Wertz



ISBN: 978-1-78548-016-4

PUB DATE: November 2015

FORMAT: Hardback

PAGES: c. 534

AUDIENCE

Academics, students and researchers concerned with computer science and seeking a practice-oriented view of object-oriented programming; Smalltalk programmers

An introduction to object-oriented programming through Smalltalk

KEY FEATURES

- Downloadable software content for practice applications
- Covers all aspects of Smalltalk: the concepts of primitive objects, classes and instances, static and dynamic inheritance and methods, as well as graphical programming, the dependency mechanisms and the handling of exceptions
- Features in-depth studies of two programming projects and annotated solutions to all exercises and appendices

DESCRIPTION

Object oriented programming is a way of thinking about problems. Smalltalk is one of the purest incarnations of an object-oriented programming language. Using a pedagogical approach, this book covers all aspects of object oriented programming: first through the study of various preexisting Smalltalk classes, their implementation and use; then through a detailed description of an implementation of an interactive Lindenmayer system and through implementation of a series of calculators.

The author addresses such subjects as graphics programming, dependency mechanisms and hierarchical specialization.

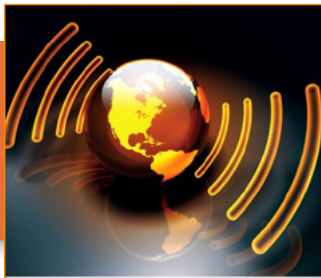
This book fills the gap for an in-depth self-study reference, permitting the reader to master all aspects of object-oriented programming through a large set of exercises with highly detailed resources.

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Wireless Public Safety Networks 1

Edited by
Daniel Câmara and Navid Nikaein
Overview and Challenges



ISBN: 978-1-78548-022-5

PUB DATE: November 2015

FORMAT: Hardback

PAGES: c. 334

AUDIENCE

Communications and signal processing engineers; computer engineers; graduates in the field of wireless communications, public safety authorities, disaster management professionals

Wireless Public Safety Networks Volume 1

Overview and Challenges

Daniel Câmara Research engineer, Telecom ParisTech, France
Navid Nikaein Assistant Professor, EURECOM, France



Learn about the latest advances in wireless Public Safety Networks (PSNs) with an examination of past communication failures that have directly contributed to the loss of lives and the main challenges related to the establishment and maintenance of these networks, the latest advancements in the field, along with future perspectives

KEY FEATURES

- Discusses the ever changing requirements and impact of PSNs in mission critical scenarios
- Analyzes the evolving methods required to meet the growing demand of capable public safety networks
- Covers lessons learned and advances made to wireless communications to help prevent loss of lives and poor practice disaster management

DESCRIPTION

Wireless Public Safety Networks, Volume One: Overview and Challenges presents the latest advances in the wireless Public Safety Networks (PSNs) field, the networks established by authorities to either prepare the population for an eminent catastrophe, or as support during crisis and normalization phases.

Maintaining communication capabilities in a disaster scenario is crucial for avoiding loss of lives and damages to property. *Wireless Public Safety Networks* examines past communication failures that have directly contributed to the loss of lives.

This book will give readers a broad view of the PSNs field, analyzing the benefits PSNs may bring to society, the main challenges related to the establishment and maintenance of these networks, the latest advancements in the field, and future perspectives.

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Digital Communications

Courses and Exercises with Solutions

Pierre Jarry Professor, Bordeaux University, France

Jacques N. Beneat Professor, Norwich University, USA



Digital Communications

Pierre Jarry and Jacques N. Beneat

Course and Exercises with Solutions



ISBN: 978-1-78548-037-9

PUB DATE: November 2015

FORMAT: Hardback

PAGES: c. 190

AUDIENCE

Communication engineers and advanced graduate students in the design and implementation of structures used for transmission or reception technology and digital circuit design

Exploring the fundamentals and basic design techniques of digital communications

KEY FEATURES

This book provides:

- A complete analysis of the structures used for emission or reception technology
- A set of approaches for implementation in current and future circuit design
- A summary of the design steps with examples and exercises for each circuit

DESCRIPTION

Digital communications plays an important role in numerical transmission systems due to the proliferation of radio beams, satellite, optic fibers, radar, and mobile wireless systems.

This book provides the fundamentals and basic design techniques of digital communications with an emphasis on the systems of telecommunication and the principles of baseband transmission. With a focus on examples and exercises, this book will prepare you with a practical and real-life treatment of communication problems.

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Bio-Inspired Networking

Daniel Camara Research engineer, Telecom ParisTech, France



Bio-inspired Networking

Daniel Camara



ISBN: 978-1-78548-021-8

PUB DATE: August 2015

FORMAT: Hardback

PAGES: c. 110

AUDIENCE

Academics and students in the field of computer network engineering; researchers and network engineers

Learn bio-inspired networking techniques from a theoretical and practical point of view

KEY FEATURES

- Discusses the key concepts of bio-inspired networking to aid you in finding efficient networking solutions
- Delivers examples of techniques both in theoretical concepts and practical applications
- Helps you apply nature's dynamic resource and task management to your computer networks

DESCRIPTION

Bio-inspired techniques are based on principles, or models, of biological systems. In general, natural systems present remarkable capabilities of resilience and adaptability. In this book, we explore how bio-inspired methods can solve different problems linked to computer networks.

Future networks are expected to be autonomous, scalable and adaptive. During millions of years of evolution, nature has developed a number of different systems that present these and other characteristics required for the next generation networks. Indeed, a series of bio-inspired methods have been successfully used to solve the most diverse problems linked to computer networks. This book presents some of these techniques from a theoretical and practical point of view.

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Agent-based Spatial Simulation with NetLogo

Edited by Arnaud Banos
Christophe Lang and Nicolas Marilleau

Volume 1
Introduction and Bases



Agent-Based Spatial Simulation with NetLogo Volume 1

Arnaud Banos CNRS Research Director and Head, UMR Géographie-cités, CNRS – Panthéon-Sorbonne University – Paris Diderot University, France

Christophe Lang Associate Professor of Computer Science, University of Franche-Comté, France

Nicolas Marilleau Research Engineer, UMI 209 UMMISCO, Institut de Recherche pour le Développement, France



A guide to good practices of agent modeling

KEY FEATURES

Featuring the following well-known techniques and tools:

- Modeling, such as UML
- Simulation, such as the NetLogo platform
- Exploration methods
- Adaptation using participative simulation

DESCRIPTION

Agent-based modeling is a flexible and intuitive approach that is close to both data and theories, which gives it a special position in the majority of scientific communities. Agent models are as much tools of understanding, exploration and adaptation as they are media for interdisciplinary exchange. It is in this kind of framework that this book is situated, beginning with agent-based modeling of spatialized phenomena with a methodological and practical orientation.

Through a governing example, taking inspiration from a real problem in epidemiology, this book proposes, with pedagogy and economy, a guide to good practices of agent modeling. The reader will thus be able to understand and put the modeling into practice and acquire a certain amount of autonomy.

ISBN: 978-1-78548-055-3

PUB DATE: August 2015

FORMAT: Hardback

PAGES: c. 268

AUDIENCE

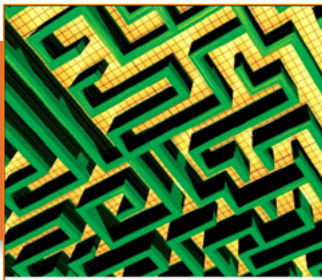
Advanced practitioners from industry and academia, and graduate students in the field of multi-agent systems

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Abstract Domains in Constraint Programming

Marie Pelleau Université de Nantes, France



Abstract Domains in Constraint Programming

Marie Pelleau



ISBN: 978-1-78548-010-2

PUB DATE: May 2015

FORMAT: Hardback

PAGES: c. 160

AUDIENCE

Researchers and graduate students in Constraint Programming, Researchers in Artificial Intelligence, Operations Research, and Mathematical Programming

Building a generic solving method

KEY FEATURES

- Exploits the over-approximation methods to integrate AI tools in the methods of CP
- Exploits the relationships captured to solve continuous problems more effectively
- Learn from the developers of a solver capable of handling practically all abstract domains

DESCRIPTION

Constraint Programming aims at solving hard combinatorial problems, with a computation time increasing in practice exponentially. The methods are today efficient enough to solve large industrial problems, in a generic framework. However, solvers are dedicated to a single variable type: integer or real. Solving mixed problems relies on ad hoc transformations. In another field, Abstract Interpretation offers tools to prove program properties, by studying an abstraction of their concrete semantics, that is, the set of possible values of the variables during an execution. Various representations for these abstractions have been proposed. They are called abstract domains. Abstract domains can mix any type of variables, and even represent relations between the variables.

In this work, we define abstract domains for Constraint Programming, so as to build a generic solving method, dealing with both integer and real variables. We also study the octagons abstract domain, already defined in Abstract Interpretation. Guiding the search by the octagonal relations, we obtain good results on a continuous benchmark. We also define our solving method using Abstract Interpretation techniques, in order to include existing abstract domains. Our solver, AbSolute, is able to solve mixed problems and use relational domains.

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Digital Identity Management

Edited by
Maryline Laurent and Samia Bouzefrane



ISBN: 978-1-78548-004-1

PUB DATE: March 2015

FORMAT: Hardback

PAGES: c. 256

AUDIENCE

Computer and mobile device users concerned about online privacy, Information Security professionals, security awareness trainers, regulatory professionals

Digital Identity Management

Maryline Laurent Professor of computer networks, Telecom SudParis, Co-founder and Chair, Institut Mines-Telecom values and policies of personal information

Samia Bouzefrane Master in computer science, Conservatoire National des Arts et Métiers, Paris



Learn the key debates surrounding the protection of digital identities and techniques for managing the changing uses of the Internet with the emergence of new digital services

"...a good resource for an academic introduction to the topic, and lends itself to a college level class...provides a deep introduction to the abstract areas and core topics of identity management."--RSAConference.com, *Digital Identity Management*

KEY FEATURES

- Offers a state of the discussions and work places on the management of digital identities in various contexts, such as social networking, cloud computing and the Internet of Things
- Describes the advanced technical and legal measures to protect digital identities
- Contains a strong emphasis of authentication techniques, identity federation tools and technical protection of privacy

DESCRIPTION

In the past four decades, information technology has altered chains of value production, distribution, and information access at a significant rate. These changes, although they have shaken up numerous economic models, have so far not radically challenged the bases of our society.

This book addresses our current progress and viewpoints on digital identity management in different fields (social networks, cloud computing, Internet of Things (IoT), with input from experts in computer science, law, economics and sociology.

Within this multidisciplinary and scientific context, having crossed analysis on the digital ID issue, it describes the different technical and legal approaches to protect digital identities with a focus on authentication systems, identity federation techniques and privacy preservation solutions. The limitations of these solutions and research issues in this field are also discussed to further understand the changes that are taking place.

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ISBN: 978-0-12-804203-8

PUB DATE: May 2016

FORMAT: Paperback

PAGES: c. 484

AUDIENCE

Researchers and graduate students in Computer Science, Bioinformatics, Systems Biology, Big Data, and Data Analytics

Emerging Trends in Applications and Infrastructures for Computational Biology, Bioinformatics, and Systems Biology

Systems and Applications

Hamid R Arabnia Professor of Computer Science, University of Georgia, Athens, GA, USA

Quoc Nam Tran Chair and Professor of Computer Science, University of South Dakota, Vermillion, SD, USA



Explores the emerging trends computational biology, bioinformatics, and systems biology with particular emphasis on their applications and infrastructures

A Volume in the Emerging Trends in Computer Science and Applied Computing Series.

KEY FEATURES

- Explores all the latest advances in this fast-developing field from an applied perspective.
- Provides the only coherent and comprehensive treatment of the subject available.
- Covers the algorithm development, software design, and database applications that have been developed to foster research.

DESCRIPTION

Emerging Trends in Applications and Infrastructures for Computational Biology, Bioinformatics, and Systems Biology covers the latest trends in the field with special emphasis on their applications.

The first part covers the major areas of computational biology, development and application of data-analytical and theoretical methods, mathematical modeling, and computational simulation techniques for the study of biological and behavioral systems.

The second part covers bioinformatics, an interdisciplinary field concerned with the methods for storing, retrieving, organizing, and analyzing biological data. The book also explores the software tools used to generate useful biological knowledge.

The third part, on systems biology, explores how to obtain, integrate, and analyze complex data sets from multiple experimental sources using interdisciplinary tools and techniques.

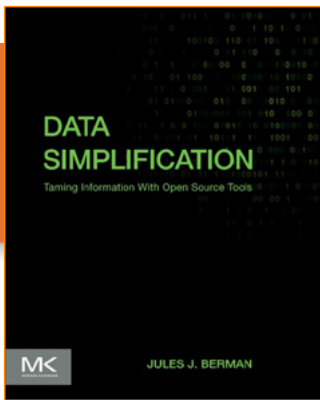
The final part on big data explores the collection of data sets so large and complex that it becomes difficult to process using conventional database management systems or traditional data processing applications.

Taken together, the book shows that these topics share an underlying foundation and framework collectively referred to as "infrastructure."

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ISBN: 978-0-12-803781-2

PUB DATE: April 2016

FORMAT: Paperback

PAGES: c. 366

AUDIENCE

Researchers in academia and graduate students in Computer Science with an interest in machine learning.

Data Simplification

Taming Information With Open Source Tools

Jules J. Berman Ph.D., M.D., freelance author with expertise in informatics, computer programming, and cancer biology, Columbia, MD, USA



Learn how to how to collect, categorize, simplify and make sense of data using a step by step methodology

KEY FEATURES

- Discusses Data simplification principles, methods and tools that must be studied and mastered
- Provides open source tools, free utilities and snippets of code that can be reused and repurposed to simplify data
- Explains how to best utilize indexes to search, retrieve, and analyze textual data
- Shows the Data Scientist how to apply ontologies, classifications, classes, properties, and instances to data using Presents practical examples

DESCRIPTION

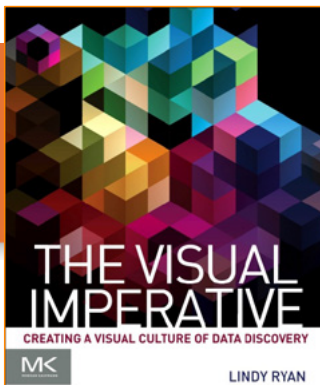
Modern data is too big and complex to analyze in its native form. Data simplification is the process whereby large and complex data is rendered usable. Complex data must be simplified before it can be analyzed, but the process of data simplification is anything but simple, requiring a specialized set of skills and tools. *Data Simplification: Taming Information with Open Source Tools* provides data scientists, from every scientific discipline, with the methods and tools to simplify their data for immediate analysis or for long-term storage, in a form that can be readily repurposed or integrated with other data. Drawing upon years of practical experience and using numerous examples and use cases, Jules Berman discusses:

- Principles, methods and tools that must be studied and mastered to make achieve data simplification.
- Open Source tools free utilities and snippets of code that can be reused and repurposed to simplify data.
- Natural language processing and machine translation as a tool to simplify data.
- Data summarization and visualization and the role they play in making data useful for the end user.

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The Visual Imperative

Creating a Visual Culture of Data Discovery

Lindy Ryan Research Director, Data Discovery and Visualization, Radiant Advisors Research Associate, Rutgers University's Discovery Informatics Institute (RD12) Associate Faculty, City University of Seattle

MK
MORGAN KAUFMANN

The thriving data-driven organization will be the one that recognizes the convergence of new tools and technologies with a new breed of visual analysts, and enables a visual culture of data discovery in its people, processes, and technologies.

KEY FEATURES

- Discusses several years of in-depth industry research and presents vendor tools, approaches, and methodologies in discovery, visualization, and visual analytics
- Provides practicable and use case-based experience from advisory work with Fortune 100 and 500 companies across multiple verticals
- Presents the next-generation of visual discovery, data storytelling, and the Five Steps to Data Storytelling with Visualization
- Explains the Convergence of Visual Analytics and Visual discovery, including how to use tools such as R in statistical and analytic modeling
- Covers emerging technologies such as streaming visualization in the IOT (Internet of Things) and streaming animation

DESCRIPTION

Data is powerful. It separates leaders from laggards and it drives business disruption, transformation, and reinvention. Today's most progressive companies are using the power of data to propel their industries into new areas of innovation, specialization, and optimization. The horsepower of new tools and technologies have provided more opportunities than ever to harness, integrate, and interact with massive amounts of disparate data for business insights and value – something that will only continue in the era of the Internet of Things. And, as a new breed of tech-savvy and digitally native knowledge workers rise to the ranks of data scientist and visual analyst, the needs and demands of the people working with data are changing, too.

The world of data is changing fast. And, it's becoming more visual.

Visual insights are becoming increasingly dominant in information management, and with the reinvigorated role of data visualization, this imperative is a driving force to creating a visual culture of data discovery. The traditional standards of data visualizations are making way for richer, more robust and more advanced visualizations and new ways of seeing and interacting with data. However, while data visualization is a critical tool to exploring and understanding bigger and more diverse and dynamic data, by understanding and embracing our human hardwiring for visual communication and storytelling and properly incorporating key design principles and evolving best practices, we take the next step forward to transform data visualizations from tools into unique visual information assets.

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Data Mapping for Data Warehouse Design

MK

Qamar Shahbaz UI Haq

Data Mapping for Data Warehouse Design

Qamar Shahbaz Senior business intelligence consultant, Stewart Title, Lahore, Pakistan

MK
MORGAN KAUFMANN

The definitive guide to mapping data between source and target models

KEY FEATURES

- Covers all stages of data warehousing and the role of data mapping in each
- Includes a data mapping strategy and techniques that can be applied to many situations
- Based on the author's years of real-world experience designing solutions

DESCRIPTION

Data mapping in a data warehouse is the process of creating a link between two distinct data models' (source and target) tables/attributes. Data mapping is required at many stages of DW life-cycle to help save processor overhead; every stage has its own unique requirements and challenges. Therefore, many data warehouse professionals want to learn data mapping in order to move from an ETL (extract, transform, and load data between databases) developer to a data modeler role. *Data Mapping for Data Warehouse Design* provides basic and advanced knowledge about business intelligence and data warehouse concepts including real life scenarios that apply the standard techniques to projects across various domains. After reading this book, readers will understand the importance of data mapping across the data warehouse life cycle.

ISBN: 978-0-12-805185-6

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 170

AUDIENCE

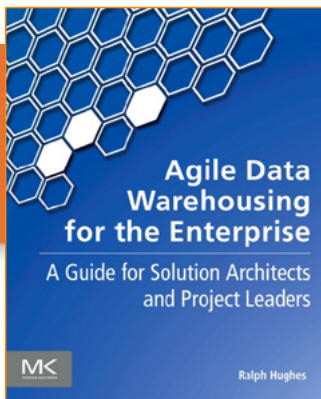
data modelers and/or developers working with DB and DW

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Agile Data Warehousing for the Enterprise

A Guide for Solution Architects and Project Leaders

Ralph Hughes former DW/BI practice manager for a leading global systems integrator, has led numerous BI programs and projects for Fortune 500 companies in aerospace, government, telecom, and pharmaceuticals



Coordinate agile data mart projects into an enterprise data warehouse with a strategic plan using the frameworks provided by Agile Data Warehousing expert Ralph Hughes

Ralph's book goes way beyond just agile programming—it illustrates an iterative approach to the full development life cycle and is particularly relevant to issues of data quality that we focus on at DAMA. The hyper modeling techniques in particular will allow teams to avoid the death trap of producing big, risky application designs up-front before a project's requirements are fully known. - Ken Dunn, President of DAMA's Houston chapter

Agile techniques and Ralph's adaptations for enterprise data warehousing have dramatically improved our ability to understand business needs and to then plan, track, and deliver upon those needs for large and small projects. This book provides a thorough treatment of the vital leadership practices for agile projects including requirements, architecture, and quality assurance.-- Richard Tench, Manager, Information Delivery, major Canadian insurance company

KEY FEATURES

- Learn how to quickly define scope and architecture before programming starts
- Includes techniques of process and data engineering that enable iterative and incremental delivery
- Demonstrates how to plan and execute quality assurance plans and includes a guide to continuous integration and automated regression testing
- Presents program management strategies for coordinating multiple agile data mart projects so that over time an enterprise data warehouse emerges
- Use the provided 120-day road map to establish a robust, agile data warehousing program

DESCRIPTION

Building upon his earlier book that detailed agile data warehousing programming techniques for the Scrum master, Ralph's latest work illustrates the agile interpretations of the remaining software engineering disciplines:

- Requirements management benefits from streamlined templates that not only define projects quickly, but ensure nothing essential is overlooked.
- Data engineering receives two new "hyper modeling" techniques, yielding data warehouses that can be easily adapted when requirements change without having to invest in ruinously expensive data-conversion programs.
- Quality assurance advances with not only a stereoscopic top-down and bottom-up planning method, but also the incorporation of the latest in automated test engines.

Use this step-by-step guide to deepen your own application development skills through self-study, show your teammates the world's fastest and most reliable techniques for creating business intelligence systems, or ensure that the IT department working for you is building your next decision support system the right way.

ISBN: 978-0-12-396464-9

PUB DATE: November 2015

FORMAT: Paperback

PAGES: c. 530

AUDIENCE

data warehousing professionals including architects, designers, data modelers, testers, database administrators, and project managers as well as IT managers, directors, and VPs

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Building a Scalable Data Warehouse with Data Vault 2.0

Dan Linstedt Founder and Principal of Empowered Holdings, LLC, St. Albans, VT, USA

Michael Olschimke BI Consultant, Dörffler + Partner GmbH, Hannover, Germany



This book covers everything users need to create a scalable data warehouse from scratch, including a presentation of the Data Vault modeling technique which provides the foundations to create a technical data warehouse layer, also including tactics on how to create the inner and presentation layer of the data vault 2.0 standard.

ISBN: 978-0-12-802510-9

PUB DATE: October 2015

FORMAT: Paperback

PAGES: c. 670

AUDIENCE

Data Analysts, Business Intelligence and Data Warehousing Professionals, and Business Analysts

KEY FEATURES

- Provides a complete introduction to data warehousing, applications, and the business context so readers can get-up and running fast
- Explains theoretical concepts and provides hands-on instruction on how to build and implement a data warehouse
- Demystifies data vault modeling with beginning, intermediate, and advanced techniques
- Discusses the advantages of the data vault approach over other techniques, also including the latest updates to Data Vault 2.0 and multiple improvements to Data Vault 1.0

DESCRIPTION

The Data Vault was invented by Dan Linstedt at the U.S. Department of Defense, and the standard has been successfully applied to data warehousing projects at organizations of different sizes, from small to large-size corporations. Due to its simplified design, which is adapted from nature, the Data Vault 2.0 standard helps prevent typical data warehousing failures.

"*Building a Scalable Data Warehouse*" covers everything one needs to know to create a scalable data warehouse end to end, including a presentation of the Data Vault modeling technique, which provides the foundations to create a technical data warehouse layer. The book discusses how to build the data warehouse incrementally using the agile Data Vault 2.0 methodology. In addition, readers will learn how to create the input layer (the stage layer) and the presentation layer (data mart) of the Data Vault 2.0 architecture including implementation best practices. Drawing upon years of practical experience and using numerous examples and an easy to understand framework, Dan Linstedt and Michael Olschimke discuss:

- How to load each layer using SQL Server Integration Services (SSIS), including automation of the Data Vault loading processes.
- Important data warehouse technologies and practices.
- Data Quality Services (DQS) and Master Data Services (MDS) in the context of the Data Vault architecture.

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ISBN: 978-0-12-802881-0

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 138

AUDIENCE

Researchers, graduate students, and professionals in the field of scalable data analysis, Cloud computing and knowledge discovery

Data Analysis in the Cloud

Models, Techniques and Applications

Domenico Talia Professor of Computer Engineering, University of Calabria, Rende, Italy

Paolo Trunfio Associate professor of computer engineering, University of Calabria, Italy

Fabrizio Marozzo Department of Electronics, Computer Science and System Sciences (DIMES), University of Calabria, Rende, Italy



The models, methods, techniques and systems to analyze the large amount of digital data available on the Internet using the computing and storage facilities of the cloud

A Volume in the Computer Science Reviews and Trends Series.

KEY FEATURES

- Introduces data analysis techniques and cloud computing concepts
- Describes cloud-based models and systems for Big Data analytics
- Provides examples of the state-of-the-art in cloud data analysis
- Explains how to develop large-scale data mining applications on clouds
- Outlines the main research trends in the area of scalable Big Data analysis

DESCRIPTION

Data Analysis in the Cloud introduces and discusses models, methods, techniques, and systems to analyze the large number of digital data sources available on the Internet using the computing and storage facilities of the cloud.

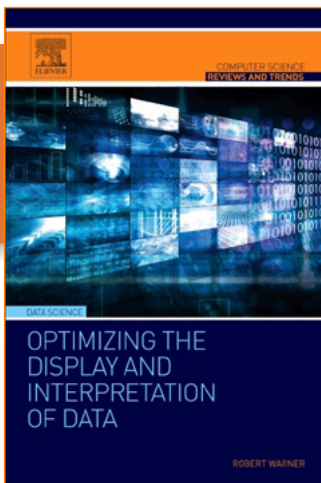
Coverage includes scalable data mining and knowledge discovery techniques together with cloud computing concepts, models, and systems. Specific sections focus on map-reduce and NoSQL models. The book also includes techniques for conducting high-performance distributed analysis of large data on clouds. Finally, the book examines research trends such as Big Data pervasive computing, data-intensive exascale computing, and massive social network analysis.

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ISBN: 978-0-12-804513-8

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 134

AUDIENCE

Professionals in healthcare, academic, engineering and business communities

Optimizing the Display and Interpretation of Data

Robert Warner Independent Investigator, Tigard, Oregon, USA



Learn methods for easily increasing the speed and accuracy of reviewing data that are relevant to many diverse fields of endeavor

A Volume in the Computer Science Reviews and Trends Series.

KEY FEATURES

- The reader will learn methods for easily increasing the speed and accuracy of reviewing data that are relevant to many diverse fields of endeavor
- This will reduce the drudgery associated with reviewing the data and simultaneously improve the reliability of the interpretations that result from the review
- This increased efficiency of review will make it easier to provide "full disclosure" of the data to all those responsible for making decisions based on any actionable information that might be contained in the data

DESCRIPTION

"What information do these data reveal?" "Is the information correct?" "How can I make the best use of the information?" The widespread use of computers and our reliance on the data generated by them have made these questions increasingly common and important. Computerized data may be in either digital or analog form and may be relevant to a wide range of applications that include medical monitoring and diagnosis, scientific research, engineering, quality control, seismology, meteorology, political and economic analysis and business and personal financial applications. The sources of the data may be databases that have been developed for specific purposes or may be of more general interest and include those that are accessible on the Internet.

In addition, the data may represent either single or multiple parameters. Examining data in its initial form is often very laborious and also makes it possible to "miss the forest for the trees" by failing to notice patterns in the data that are not readily apparent. To address these problems, this monograph describes several accurate and efficient methods for displaying, reviewing and analyzing digital and analog data. The methods may be used either singly or in various combinations to maximize the value of the data to those for whom it is relevant. None of the methods requires special devices and each can be used on common platforms such as personal computers, tablets and smart phones. Also, each of the methods can be easily employed utilizing widely available off-the-shelf software.

Using the methods does not require special expertise in computer science or technology, graphical design or statistical analysis. The usefulness and accuracy of all the described methods of data display, review and interpretation have been confirmed in multiple carefully performed studies using independent, objective endpoints. These studies and their results are described in the monograph. Because of their ease of use, accuracy and efficiency, the methods for displaying, reviewing and analyzing data described in this monograph can be highly useful to all who must work with computerized information and make decisions based upon it.

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Structured Search for Big Data

From Keywords to Key-objects

MK

Mikhail Gilula

ISBN: 978-0-12-804631-9

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 94

AUDIENCE

IT professionals and managers, data architects and modelers, software developers, undergraduate and graduate students in information systems, computer science or engineering

Structured Search for Big Data

From Keywords to Key-objects

Mikhail Gilula Sr. Data Warehouse Architect, Teradata, San Carlos, CA, USA

MK
MORAN KAUFMANN

Introduces structured search as a technology for querying multiple data sources in an independent and scalable manner

KEY FEATURES

- Conceptualizes structured search as a technology for querying multiple data sources in an independent and scalable manner.
- Explains how NoSQL and KeySQL complement each other and serve different needs with respect to big data
- Shows the place of structured search in the internet evolution and describes its implementations including the real-time structured internet search

DESCRIPTION

The WWW era made billions of people dramatically dependent on the progress of data technologies, out of which Internet search and Big Data are arguably the most notable. Structured Search paradigm connects them via a fundamental concept of key-objects evolving out of keywords as the units of search. The key-object data model and KeySQL revamp the data independence principle making it applicable for Big Data and complement NoSQL with full-blown structured querying functionality. The ultimate goal is extracting Big Information from the Big Data.

As a Big Data Consultant, Mikhail Gilula combines academic background with 20 years of industry experience in the database and data warehousing technologies working as a Sr. Data Architect for Teradata, Alcatel-Lucent, and PayPal, among others. He has authored three books, including *The Set Model for Database and Information Systems* and holds four US Patents in Structured Search and Data Integration.

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Emerging Trends in Computational Biology, Bioinformatics, and Systems Biology *Algorithms and Software Tools*

Hamid R Arabnia Professor of Computer Science, University of Georgia, Athens, GA, USA

Quoc Nam Tran Chair and Professor of Computer Science, University of South Dakota, Vermillion, SD, USA



An overview of computational biology, bioinformatics and system biology from a computer science perspective, emphasizing Big Data using a data-analytical driven approach

A Volume in the Emerging Trends in Computer Science and Applied Computing Series.

"This is a valuable resource for students, clinicians, and researchers who wish to keep abreast of the emerging trends in computational biology, bioinformatics, and systems biology. Score: 76 - 3 Stars"--**Doody's, *Emerging Trends in Computational Biology, Bioinformatics, and Systems Biology***

ISBN: 978-0-12-802508-6

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 634

AUDIENCE

Researchers and graduate students in Computer Science, Bioinformatics researchers and Systems biologists

KEY FEATURES

- Discusses the development and application of data-analytical and theoretical methods, mathematical modeling and computational simulation techniques to the study of biological and behavioral systems.
- Presents a systematic approach for storing, retrieving, organizing and analyzing biological data using software tools with applications.
- Provides a systems biology perspective including general guidelines and techniques for obtaining, integrating and analyzing complex data sets from multiple experimental sources using computational tools and software.

DESCRIPTION

Emerging Trends in Computational Biology, Bioinformatics, and Systems Biology discusses the latest developments in all aspects of computational biology, bioinformatics, and systems biology and the application of data-analytics and algorithms, mathematical modeling, and simulation techniques.

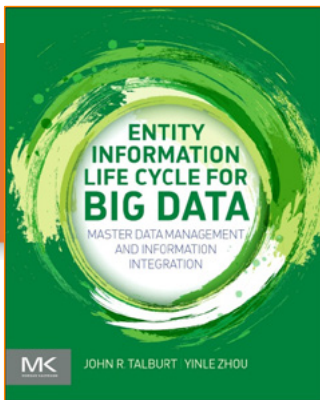
- Discusses the development and application of data-analytical and theoretical methods, mathematical modeling, and computational simulation techniques to the study of biological and behavioral systems, including applications in cancer research, computational intelligence and drug design, high-performance computing, and biology, as well as cloud and grid computing for the storage and access of big data sets.
- Presents a systematic approach for storing, retrieving, organizing, and analyzing biological data using software tools with applications to general principles of DNA/RNA structure, bioinformatics and applications, genomes, protein structure, and modeling and classification, as well as microarray analysis.
- Provides a systems biology perspective, including general guidelines and techniques for obtaining, integrating, and analyzing complex data sets from multiple experimental sources using computational tools and software. Topics covered include phenomics, genomics, epigenomics/epigenetics, metabolomics, cell cycle and checkpoint control, and systems biology and vaccination research.
- Explains how to effectively harness the power of Big Data tools when data sets are so large and complex that it is difficult to process them using conventional database management systems or traditional data processing applications.

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Entity Information Life Cycle for Big Data

Master Data Management and Information Integration

John R. Talburt Professor of Information Science, University of Arkansas at Little Rock, AR, USA

Yinle Zhou Software Engineer, IBM InfoSphere Master Data Management, Austin, TX, USA

MK
MORAN KAUFMANN

Discover the details of managing entity information to successfully achieve master data management (MDM) in the era of big data.

“Entity resolution and identity information management are the major challenges in master data management. John Talburt and Yinle Zhou have synthesized their considerable expertise to address this challenge in the era of big data. Anyone who wants to manage data strategically should start here.”— Laura Sebastian-Coleman, Data Quality Center of Excellence Lead, Cigna

ISBN: 978-0-12-800537-8

PUB DATE: April 2015

FORMAT: Paperback

PAGES: c. 236

AUDIENCE

IT managers and software developers as well as graduate and undergraduate students in computer science, information science, business computer information systems, and management information systems.

KEY FEATURES

- Explains the business value and impact of entity information management system (EIMS) and directly addresses the problem of EIMS design and operation, a critical issue organizations face when implementing MDM systems
- Offers practical guidance to help you design and build an EIM system that will successfully handle big data
- Details how to measure and evaluate entity integrity in MDM systems and explains the principles and processes that comprise EIM
- Provides an understanding of features and functions an EIM system should have that will assist in evaluating commercial EIM systems
- Includes chapter review questions, exercises, tips, and free downloads of demonstrations that use the OYSTER open source EIM system
- Executable code (Java .jar files), control scripts, and synthetic input data illustrate various aspects of CRUD life cycle such as identity capture, identity update, and assertions

DESCRIPTION

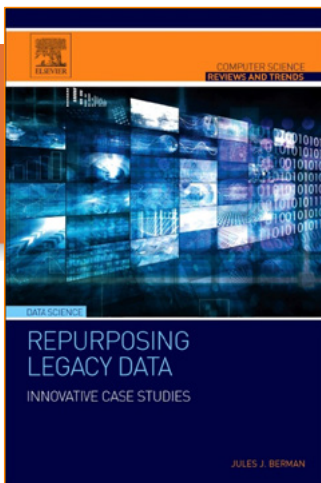
Entity Information Life Cycle for Big Data walks you through the ins and outs of managing entity information so you can successfully achieve master data management (MDM) in the era of big data. This book explains big data's impact on MDM and the critical role of entity information management system (EIMS) in successful MDM. Expert authors Dr. John R. Talburt and Dr. Yinle Zhou provide a thorough background in the principles of managing the entity information life cycle and provide practical tips and techniques for implementing an EIMS, strategies for exploiting distributed processing to handle big data for EIMS, and examples from real applications. Additional material on the theory of EIMS and methods for assessing and evaluating EIMS performance also make this book appropriate for use as a textbook in courses on entity and identity management, data management, customer relationship management (CRM), and related topics.

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ISBN: 978-0-12-802882-7

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 168

AUDIENCE

Primary Market Data scientists, Big Data curators, Statisticians, Researchers; Secondary Market: graduate level students in computer science, statistics, information sciences

Repurposing Legacy Data

Innovative Case Studies

Jules J. Berman Ph.D., M.D., freelance author with expertise in informatics, computer programming, and cancer biology, Columbia, MD, USA



Learn how to restore, analyze, and draw value from legacy data

A Volume in the Computer Science Reviews and Trends Series.

KEY FEATURES

- Discusses how combining existing data with other data sets of the same kind can produce an aggregate data set that serves to answer questions that could not be answered with any of the original data
- Presents a method for re-analyzing original data sets using alternate or improved methods that can provide outcomes more precise and reliable than those produced in the original analysis
- Explains how to integrate heterogeneous data sets for the purpose of answering questions or developing concepts that span several different scientific fields

DESCRIPTION

Repurposing Legacy Data: Innovative Case Studies takes a look at how data scientists have re-purposed legacy data, whether their own, or legacy data that has been donated to the public domain.

Most of the data stored worldwide is legacy data—data created some time in the past, for a particular purpose, and left in obsolete formats. As with keepsakes in an attic, we retain this information thinking it may have value in the future, though we have no current use for it.

The case studies in this book, from such diverse fields as cosmology, quantum physics, high-energy physics, microbiology, psychiatry, medicine, and hospital administration, all serve to demonstrate how innovative people draw value from legacy data. By following the case examples, readers will learn how legacy data is restored, merged, and analyzed for purposes that were never imagined by the original data creators.

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ISBN: 978-0-12-803455-2

PUB DATE: April 2016

FORMAT: Paperback

PAGES: c. 92

AUDIENCE

Researchers in summarization; (including text summarization, graph summarization, picture summarization, video summarization), artificial intelligence, intelligent information processing, natural language processing, World Wide Web, Cyber-Physical Society, etc.

Multi-Dimensional Summarization in Cyber-Physical Society

Hai Zhuge Nanjing University of Posts and Telecommunications, Nanjing, China; Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China; and Aston University, Birmingham, UK



This insightful book on multi-dimensional summarization presents the topic as it applies to the complex intersections of cyberspace and physical society, also providing multi-dimensional summarization as a tool for effectively analyzing big data and discussing recent advances in the field, as well as the limitations associated with some of the viewpoints covered

A Volume in the Computer Science Reviews and Trends Series.

KEY FEATURES

- Discusses multi-dimensional summarization of texts, pictures, videos, and graphs, and how to quickly attract attention, represent the core, and effectively convey meaning according to user interests
- Provides a multi-dimensional methodology which can be used to effectively summarize content into an effective medium and display
- Presents summarization as a tool to effectively analyze big data and discusses recent advances in this realm
- Includes the basic behaviors of summarization studied in the complex space of cyberspace, physical space, and social space

DESCRIPTION

Summarization, Big Data and Cyber-Physical Society summarizes previous text summarization approaches in a multi-dimensional classification space, introduces a multi-dimensional methodology for research and development, unveils the basic characteristics and principles of language use and understanding, investigates some fundamental mechanisms of summarization, studies dimensions and diversity in representations, and proposes a multi-dimensional evaluation mechanism. Investigation extends to incorporating pictures into summary and to the summarization of videos, graphs, and pictures, and converges to a general summarization method.

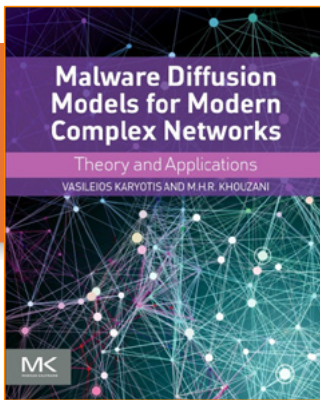
In addition, basic behaviors of summarization are studied in the complex space of cyberspace, physical space, and social space. Finally, the limitation of summarization is pointed out, with the notion of innovative summarization proposed, including four basic viewpoints: a representation suitable for summarization should have a core indicated by its intention and extension; summarization is an open process of interactions involved in various explicit and implicit citations; summary has diverse forms carried out through multiple dimensions; and automatic summarization has a limitation, and linking summarization to cyberspace, physical space, and social space to establish a human-machine-nature symbiotic environment is a way to approach and even break the limitation.

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ISBN: 978-0-12-802714-1

PUB DATE: February 2016

FORMAT: Paperback

PAGES: c. 302

AUDIENCE

Graduate students, postdoctoral researchers, professors and experienced/interested engineers involved in computer security/malware research

Malware Diffusion Models for Modern Complex Networks

Theory and Applications

Vasileios Karyotis School of Electrical and Computer Engineering, National Technical University of Athens, Greece

M.H.R. Khouzani School of Electronic Engineering and Computer Science, Queen Mary University of London, U.K.



This book provides a comprehensive reference on malware diffusion models, showing how the proliferation of smartphones and tablets has precipitated the need for an increased awareness of malicious content, a serious concern for all types of network users, from laymen to experienced administrators.

KEY FEATURES

- Presents a timely update on malicious software (malware), a serious concern for all types of network users, from laymen to experienced administrators
- Systematically introduces malware diffusion processes, providing the relevant mathematical background
- Discusses malware modeling frameworks and how to apply them to complex wireless networks
- Provides guidelines and directions for extending the corresponding theories in other application domains, demonstrating such possibility by using application models in information dissemination scenarios

DESCRIPTION

Malware Diffusion Models for Wireless Complex Networks: Theory and Applications provides a timely update on malicious software (malware), a serious concern for all types of network users, from laymen to experienced administrators. As the proliferation of portable devices, namely smartphones and tablets, and their increased capabilities, has propelled the intensity of malware spreading and increased its consequences in social life and the global economy, this book provides the theoretical aspect of malware dissemination, also presenting modeling approaches that describe the behavior and dynamics of malware diffusion in various types of wireless complex networks.

Sections include a systematic introduction to malware diffusion processes in computer and communications networks, an analysis of the latest state-of-the-art malware diffusion modeling frameworks, such as queuing-based techniques, calculus of variations based techniques, and game theory based techniques, also demonstrating how the methodologies can be used for modeling in more general applications and practical scenarios.

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Online Social Networks

Human Cognitive Constraints in Facebook and Twitter Personal Graphs

Valerio Arnaboldi Institute for Informatics and Telematics, National Research Council (IIT-CNR), Italy; **Andrea Passarella** Institute for Informatics and Telematics, National Research Council (IIT-CNR), Italy; **Marco Conti** Institute for Informatics and Telematics, National Research Council (IIT-CNR), Italy; **Robin I.M. Dunbar** University of Oxford, England and Aalto University, Finland



New insights into the structures of personal online social networks and the mechanisms of human online social behavior

A Volume in the Computer Science Reviews and Trends Series.

“Since its birth in the mid 90’s, Dunbar’s hypothesis on the limits of human brain to support active social relations –150 at most – has fostered wide interest and debate. Now, teaming with computer scientists Arnaboldi, Conti and Passarella from the Italian National Research Council, the British anthropologist provides further quantitative evidence to his theory. Based on big network data from Facebook and Twitter, the authors explore the structure and mechanics of ego networks – the web of social contacts surrounding each individual person – discovering that the patterns predicted by Dunbar’s theory are in fact existing in the social networks that we humans re-created online. An influential result, which reveals the microscopic structure of society. Deep, stimulating, vivid. This book is an intellectual delight.” – *Dino Pedreschi, KDD Lab, Dept. of Computer Science, University of Pisa, Italy*

KEY FEATURES

- Provides an analysis of the structural properties of ego networks in online social networks
- Presents quantitative evidence of the Dunbar’s number in online environments
- Discusses original structural and dynamic properties of human social network through OSN analysis

DESCRIPTION

Online Social Networks: Human Cognitive Constraints in Facebook and Twitter provides new insights into the structural properties of personal online social networks and the mechanisms underpinning human online social behavior.

As the availability of digital communication data generated by social media is revolutionizing the field of social networks analysis, the text discusses the use of large- scale datasets to study the structural properties of online ego networks, to compare them with the properties of general human social networks, and to highlight additional properties.

Users will find the data collected and conclusions drawn useful during design or research service initiatives that involve online and mobile social network environments.

ISBN: 978-0-12-803023-3

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 106

AUDIENCE

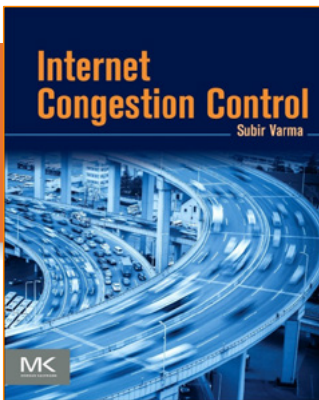
Researchers working in the field of social network analysis, and undergraduate and graduate students studying the same topic. Professionals in the field of Online Social Networking service design.

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ISBN: 978-0-12-803583-2

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 264

AUDIENCE

Network engineers and researchers and graduate students in Computer Networking, Telecommunications, and Electrical Engineering.

Internet Congestion Control

Subir Varma Managing Director, Catapult Technology Associates, Palo Alto, CA



An exploration of the most important developments in congestion control for computer networks through the lens of analytical modeling

"...algorithms are presented in detail and insights on their operation are discussed in a clear manner, making the book very useful to people that are interested in the algorithmic aspects and are willing to skip the technical analysis. As such, the book is useful to advances undergraduate and graduate students, as well as to practicing engineers and scientists, and to researchers." - Leonidas Georgiadis, Aristotle University of Thessaloniki

"I think this book distinguishes itself very well in the way it first approaches and then dives into the topic of congestion control.... There is a whole range of algorithms and traffic domains and trying to make sense of so many areas in a coherent manner is a daunting task. The book approaches this challenge in a top down fashion which works out very well in the end....All the content is there that is needed to make anyone interested a reasonable expert in the area." -Ashish Gupta, Senior Software Engineer, Google Inc.

KEY FEATURES

- Examines and synthesizes the most important developments in internet congestion control from the last 20 years.
- Provides detailed description on the congestion control protocols used in four key areas; broadband wireless networks, high speed networks with large latencies, video transmission networks, and data center networks.
- Offers accessible coverage of advanced topics such as Optimization and Control Theory as applied to congestion control systems.

DESCRIPTION

Internet Congestion Control provides a description of some of the most important topics in the area of congestion control in computer networks, with special emphasis on the analytical modeling of congestion control algorithms.

The field of congestion control has seen many notable advances in recent years and the purpose of this book, which is targeted towards the advanced and intermediate reader, is to inform about the most important developments in this area. The book should enable the reader to gain a good understanding of the application of congestion control theory to a number of application domains such as Data Center Networks, Video Streaming, High Speed Links and Broadband Wireless Networks. When seen through the lens of analytical modeling, there are a number of common threads that run through the design and analysis of congestion control protocols in all these different areas, which are emphasized in this book. The book also cuts a path through the profusion of algorithms in the literature, and puts the topic on a systematic and logical footing.

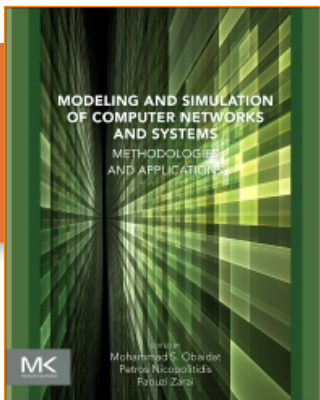
Internet Congestion Control provides practicing network engineers and researchers with a comprehensive and accessible coverage of analytical models of congestion control algorithms, and gives readers everything needed to understand the latest developments and research in this area.

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ISBN: 978-0-12-800887-4

PUB DATE: April 2015

FORMAT: Paperback

PAGES: c. 924

AUDIENCE

professionals in networking and telecommunications area graduate students in computer science, networking and telecommunications.

**Modeling and Simulation of Computer Networks and Systems
Methodologies and Applications**

Edited by: **Mohammad S. Obaidat** Professor of Computer Science and Software Engineering, Monmouth University.

Faouzi Zarai Assistant Professor at Sfax High Institute of Electronic and Communication, Tunisia.

Petros Nicolaitidis Associate Professor, Department of Informatics, Aristotle University of Thessaloniki, Greece.



Introduces you to a broad array of modeling and simulation issues related to computer networks and systems.

KEY FEATURES

- Discusses important and emerging topics in computer networks and Systems including but not limited to; modeling, simulation, analysis and security of wireless and mobiles networks especially as they relate to next generation wireless networks
- Provides the necessary methodologies, strategies and tools needed to build computer networks and systems modeling and simulation from the bottom up
- Includes comprehensive review and evaluation of simulation tools and methodologies and different network performance metrics including mobility, congestion, quality of service, security and more

DESCRIPTION

Modeling and Simulation of Computer Networks and Systems: Methodologies and Applications introduces you to a broad array of modeling and simulation issues related to computer networks and systems. It focuses on the theories, tools, applications and uses of modeling and simulation in order to effectively optimize networks. It describes methodologies for modeling and simulation of new generations of wireless and mobiles networks and cloud and grid computing systems.

Drawing upon years of practical experience and using numerous examples and illustrative applications recognized experts in both academia and industry, discuss:

- Important and emerging topics in computer networks and systems including but not limited to; modeling, simulation, analysis and security of wireless and mobiles networks especially as they relate to next generation wireless networks
- Methodologies, strategies and tools, and strategies needed to build computer networks and systems modeling and simulation from the bottom up
- Different network performance metrics including, mobility, congestion, quality of service, security and more...

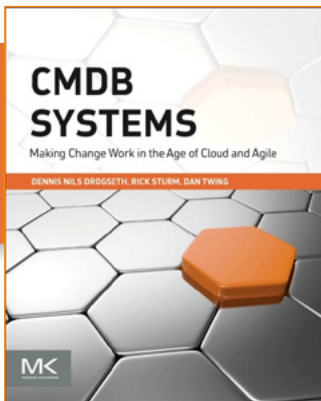
Modeling and Simulation of Computer Networks and Systems is a must have resource for network architects, engineers and researchers who want to gain insight into optimizing network performance through the use of modeling and simulation.

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ISBN: 978-0-12-801265-9

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 376

AUDIENCE

IT directors, IT managers, IT architects, CMDB implementers, ITIL professionals

CMDB Systems

Making Change Work in the Age of Cloud and Agile

Dennis Drogseth Vice President/Research IT Megatrends, Analytics and CMDB Systems, Enterprise Management Associates (EMA), Boulder, CO, USA

Rick Sturm Founder and CEO, Enterprise Management Associates, Inc.

Dan Twing President and Chief Operating Officer, Enterprise Management Associates (EMA), Boulder, CO, USA



Learn how to successfully deploy a CMDB to optimize your enterprise so that it runs more efficiently

KEY FEATURES

- Discover unique insights from industry experts who consult on the evolution of CMDB/CMS technology and will show you the steps needed to successfully plan, design and implement CMDB
- Covers related use-cases from retail, manufacturing and financial verticals from real-world CMDB deployments
- Provides structured best practices for CMDB deployments
- Discusses how CMDB adoption can lower total cost of ownership, increase efficiency and optimize the IT enterprise

DESCRIPTION

CMDB Systems: Making Change Work in the Age of Cloud and Agile shows you how an integrated database across all areas of an organization's information system can help make organizations more efficient reduce challenges during change management and reduce total cost of ownership (TCO). In addition, this valuable reference provides guidelines that will enable you to avoid the pitfalls that cause CMDB projects to fail and actually shorten the time required to achieve an implementation of a CMDB. Drawing upon extensive experience and using illustrative real world examples, Rick Sturm, Dennis Drogseth and Dan Twing discuss:

- Unique insights from extensive industry exposure, research and consulting on the evolution of CMDB/CMS technology and ongoing dialog with the vendor community in terms of current and future CMDB/CMS design and plans
- Proven and structured best practices for CMDB deployments
- Clear and documented insights into the impacts of cloud computing and other advances on CMDB/CMS futures

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ISBN: 978-0-12-801379-3

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 322

AUDIENCE

Researchers, computer architects, computer engineers and IT professionals

Green Information Technology

A Sustainable Approach

Mohammad Dastbaz Dean of Faculty of Arts, Environment and Technology and Professor of Informatics, Leeds Beckett University, Leeds, UK

Colin Pattinson Head of the School of Computing, Creative Technologies and Engineering, Leeds Beckett University, Leeds, UK

Babak Akhgar Professor of Informatics, Sheffield Hallam University, Sheffield, UK

MK
MORAN KAUFMANN

A must-have guide for researchers, computer architects, computer engineers, and IT professionals with an interest in greater efficiency with less environmental impact

KEY FEATURES

- Introduces the concept of using green procurement and supply chain programs in the IT infrastructure.
- Discusses how to use big data to drive efficiencies and establish a framework for sustainability in the information technology infrastructure.
- Explains how cloud computing can be used to consolidate corporate IT environments using large-scale shared infrastructure reducing the overall environmental impact and unlocking new efficiencies.
- Provides specific use cases for Green IT such as data center energy efficiency and cloud computing sustainability and risk.

DESCRIPTION

We are living in the era of "Big Data" and the computing power required to deal with "Big Data" both in terms of its energy consumption and technical complexity is one of the key areas of research and development. The U.S. Environmental Protection Agency estimates that centralized computing infrastructures (data centres) currently use 7 giga watts of electricity during peak loads. This translates into about 61 billion kilowatt hours of electricity used. By the EPA's estimates, power-hungry data centres consume the annual output of 15 average-sized power plants. One of the top constraints to increasing computing power, besides the ability to cool, is simply delivering enough power to a given physical space.

Green Information Technology: A Sustainable Approach offers in a single volume a broad collection of practical techniques and methodologies for designing, building and implementing a green technology strategy in any large enterprise environment, which up until now has been scattered in difficult-to-find scholarly resources. Included here is the latest information on emerging technologies and their environmental impact, how to effectively measure sustainability, discussions on sustainable hardware and software design, as well as how to use big data and cloud computing to drive efficiencies and establish a framework for sustainability in the information technology infrastructure.

Written by recognized experts in both academia and industry, *Green Information Technology: A Sustainable Approach* is a must-have guide for researchers, computer architects, computer engineers and IT professionals with an interest in greater efficiency with less environmental impact.

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Foundations of Quantum Programming



Mingsheng Ying

ISBN: 978-0-12-802306-8

PUB DATE: April 2016

FORMAT: Paperback

PAGES: c. 336

AUDIENCE

Software engineers in high performance computing, researchers in the areas of programming languages and quantum computing

Foundations of Quantum Programming

Mingsheng Ying Distinguished Professor, University of Technology Sydney (UTS) and Research Director, Center for Quantum Computation and Intelligent Systems, UTS, Australia; also Cheung Kong Professor of Computer Science, Tsinghua University, China

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MORGAN KAUFMANN

This new reference discusses how programming methodologies and technologies developed for current computers can be extended to exploit the unique power of quantum computers, which promise dramatic advantages in processing speed over current computer systems

KEY FEATURES

- Demystifies the theory of quantum programming using a step-by-step approach
- Covers the interdisciplinary nature of quantum programming by providing examples from many different fields including, engineering, computer science, medicine, and life sciences
- Includes techniques and tools to solve complex control flow patterns and synchronize computations
- Presents a coherent and self-contained treatment that will be valuable for academics and industrial researchers and developers

DESCRIPTION

Foundations of Quantum Programming discusses how new programming methodologies and technologies developed for current computers can be extended to exploit the unique power of quantum computers, which promise dramatic advantages in processing speed over currently available computer systems. Governments and industries around the globe are now investing vast amounts of money with the expectation of building practical quantum computers. Drawing upon years of experience and research in quantum computing research and using numerous examples and illustrations, Mingsheng Ying has created a very useful reference on quantum programming languages and important tools and techniques required for quantum programming, making the book a valuable resource for academics, researchers, and developers.

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ISBN: 978-0-12-805101-6

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 288

AUDIENCE

Domain specialists or programmers who need to develop domain-based information applications

Building Intelligent Information Systems Software

Introducing the Unit Modeler Development Technology

Thomas D. Feigenbaum Founder, Chief Executive Officer, and Chief Technologist, Ke Labs, Indianapolis, IN, USA

MK
MORAN KAUFMANN

Learn to create intelligent information-based applications with the Unit Modeler Development Environment

KEY FEATURES

- Turn your domain knowledge into applications without heavy coding
- Design and develop information systems applications in a fraction of the time of traditional methods
- Leverage previously-built components to jump start new projects
- Includes access to a trial version of the Information Unit Modeler tool for rapid application development

DESCRIPTION

Building Intelligent Information Systems Software shows scientists and engineers how to build applications that model complex information, data, and knowledge without the need for coding. Traditional software development takes time and leads to inflexible, complicated applications that almost, but don't exactly, meet the intended needs. Requirements can change, sometimes mid-development, and adapting existing systems can be difficult. Individual solutions can be incompatible, leading to information silos and inefficiency throughout an organization. This book offers a solution – the Information Unit Model, an innovative architecture for translating domain knowledge into applications. By encapsulating the complexities of computing, the Unit Model allows engineers to focus on business or experimental needs. Author Tom Feigenbaum, inventor of the Unit Modeler, demonstrates this innovative software architecture for rapid application design and development. His approach promotes repurposing pre-existing tools and libraries, and collaborating across the cloud, to promote information sharing and efficient development practices. Each concept is illustrated with examples including file management, data management, and 3D visualization.

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ISBN: 978-0-12-803284-8

PUB DATE: November 2015

FORMAT: Paperback

PAGES: c. 304

AUDIENCE

enterprise/software architects,
application designers, "DevOps"
managers

Continuous Architecture

Sustainable Architecture in an Agile and Cloud-Centric World

Murat Erder Director, IT Architecture & Engineering for a leading financial services organization, London, UK

Pierre Pureur Vice President and Chief Enterprise Architect, Hartford, CT, USA

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MORGAN KAUFMANN

An architectural approach to support modern application delivery methods

KEY FEATURES

- Covering the application of enterprise and software architecture concepts to the Agile and Continuous Delivery models
- Explains how to create an architecture that can evolve with applications
- Incorporates techniques including refactoring, architectural analysis, testing, and feedback-driven development
- Provides insight into incorporating modern software development when structuring teams and organizations

DESCRIPTION

Continuous Architecture provides a broad architectural perspective for continuous delivery, and describes a new architectural approach that supports and enables it. As the pace of innovation and software releases increases, IT departments are tasked to deliver value quickly and inexpensively to their business partners. With a focus on getting software into end-users hands faster, the ultimate goal of daily software updates is in sight to allow teams to ensure that they can release every change to the system simply and efficiently.

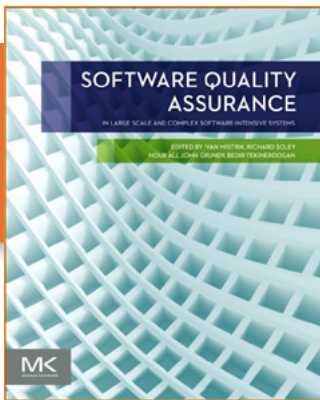
This book presents an architectural approach to support modern application delivery methods and provide a broader architectural perspective, taking architectural concerns into account when deploying agile or continuous delivery approaches. The authors explain how to solve the challenges of implementing continuous delivery at the project and enterprise level, and the impact on IT processes including application testing, software deployment and software architecture.

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Software Quality Assurance

In Large Scale and Complex Software-intensive Systems

Edited by: *Ivan Mistrik* Systems Engin. Researcher/Consultant, Germany

Richard M Soley Chairman and Chief Executive Officer of OMG®, US

Nour Ali Senior Lecturer at the University of Brighton, UK

John Grundy Dean, Software Engineering, Swinburne University, Australia

Bedir Tekinerdogan Wageningen University, The Netherlands

MK
MORAN KAUFMANN

This volume presents state-of-the-art techniques, methodologies, tools, best practices, and guidelines for software quality assurance and offers guidance for future software engineering research and practice.

KEY FEATURES

- Focused on quality assurance at all levels of software design and development
- Covers domain-specific software quality assurance issues e.g. for cloud, mobile, security, context-sensitive, mash-up and autonomic systems
- Explains likely trade-offs from design decisions in the context of complex software system engineering and quality assurance
- Includes practical case studies of software quality assurance for complex, adaptive and context-critical systems

DESCRIPTION

Software Quality Assurance in Large Scale and Complex Software-intensive Systems presents novel and high-quality research related approaches that relate the quality of software architecture to system requirements, system architecture and enterprise-architecture, or software testing. Modern software has become complex and adaptable due to the emergence of globalization and new software technologies, devices and networks. These changes challenge both traditional software quality assurance techniques and software engineers to ensure software quality when building today (and tomorrow's) adaptive, context-sensitive, and highly diverse applications.

This edited volume presents state of the art techniques, methodologies, tools, best practices and guidelines for software quality assurance and offers guidance for future software engineering research and practice. Each contributed chapter considers the practical application of the topic through case studies, experiments, empirical validation, or systematic comparisons with other approaches already in practice. Topics of interest include, but are not limited, to: quality attributes of system/software architectures; aligning enterprise, system, and software architecture from the point of view of total quality; design decisions and their influence on the quality of system/software architecture; methods and processes for evaluating architecture quality; quality assessment of legacy systems and third party applications; lessons learned and empirical validation of theories and frameworks on architectural quality; empirical validation and testing for assessing architecture quality.

ISBN: 978-0-12-802301-3

PUB DATE: October 2015

FORMAT: Paperback

PAGES: c. 374

AUDIENCE

Researchers, practitioners, and graduate students of software engineering and software quality assurance; also working software designers or IT managers.

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AGILE SYSTEMS ENGINEERING



MK

Bruce Powel Douglass, Ph.D.

ISBN: 978-0-12-802120-0

PUB DATE: October 2015

FORMAT: Paperback

PAGES: c. 432

AUDIENCE

System engineers, particularly those in aerospace, defense, automotive, transportation, and rail, as well as embedded software developers across disciplines.

Agile Systems Engineering

Bruce Powel Douglass Chief Evangelist, IBM Internet of Things, Fairfax, VA, USA

MK
MORAN KAUFMANN

Couples Agile methods with system concepts to help avoid many common specification defects and improve system quality, while reducing the effort and cost of systems engineering.

KEY FEATURES

- Identifies how the concepts and techniques of agile methods can be effectively applied in systems engineering context
- Shows how to perform model-based functional analysis and tie these analyses back to system requirements and stakeholder needs, and forward to system architecture and interface definition
- Provides a means by which the quality and correctness of systems engineering data can be assured (before the entire system is built!)
- Explains agile system architectural specification and allocation of functionality to system components
- Details how to transition engineering specification data to downstream engineers with no loss of fidelity
- Includes detailed examples from across industries taken through their stages, including the "Waldo" industrial exoskeleton as a complex system

DESCRIPTION

Agile Systems Engineering presents a vision of systems engineering where precise specification of requirements, structure, and behavior meet larger concerns as such as safety, security, reliability, and performance in an agile engineering context.

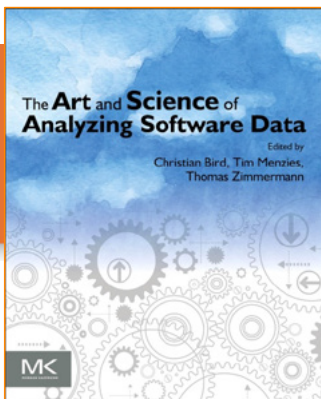
World-renown author and speaker Dr. Bruce Powel Douglass incorporates agile methods and model-based systems engineering (MBSE) to define the properties of entire systems while avoiding errors that can occur when using traditional textual specifications. Dr. Douglass covers the lifecycle of systems development, including requirements, analysis, design, and the handoff to specific engineering disciplines. Throughout, Dr. Douglass couples agile methods with SysML and MBSE to arm system engineers with the conceptual and methodological tools they need to avoid specification defects and improve system quality while simultaneously reducing the effort and cost of systems engineering.

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The Art and Science of Analyzing Software Data

Edited by: *Christian Bird* Researcher, Microsoft Research, Redmond, VA
Tim Menzies Professor, Computer Science, North Carolina State University, Raleigh, NC, USA
Thomas Zimmermann Researcher, Microsoft Research, Redmond, VA



A comprehensive guide to the art and science of analyzing software data, with best practices generated by leading data scientists, collected from their experience training software engineering students and practitioners on how to master data science.

KEY FEATURES

- Presents best practices, hints, and tips to analyze data and apply tools in data science projects
- Presents research methods and case studies that have emerged over the past few years to further understanding of software data
- Shares stories from the trenches of successful data science initiatives in industry

DESCRIPTION

The Art and Science of Analyzing Software Data provides valuable information on analysis techniques often used to derive insight from software data. This book shares best practices in the field generated by leading data scientists, collected from their experience training software engineering students and practitioners to master data science.

The book covers topics such as the analysis of security data, code reviews, app stores, log files, and user telemetry, among others. It covers a wide variety of techniques such as co-change analysis, text analysis, topic analysis, and concept analysis, as well as advanced topics such as release planning and generation of source code comments. It includes stories from the trenches from expert data scientists illustrating how to apply data analysis in industry and open source, present results to stakeholders, and drive decisions.

ISBN: 978-0-12-411519-4

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 648

AUDIENCE

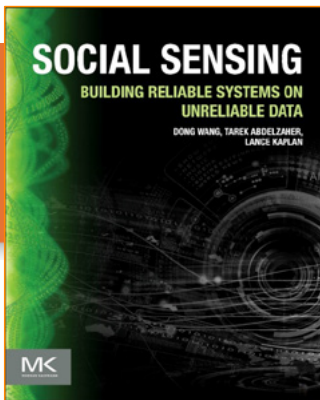
Practicing software engineers, researchers and graduate software engineering students with an interest in data science.

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Social Sensing

Building Reliable Systems on Unreliable Data

Dong Wang Assistant Professor, Department of Computer Science and Engineering, University of Notre Dame, Notre Dame, IN, USA

Tarek Abdelzaher Professor and Willett Faculty Scholar, Department of Computer Science, University of Illinois, Urbana Champaign, Champaign, IL, USA

Lance Kaplan Networked Sensing and Fusion Branch, U.S. Army Research Laboratory, Adelphi, MD, USA

MK
MORGAN KAUFMANN

Emerging ideas to analyze and leverage real-time social data created by human sensors

KEY FEATURES

- Offers a unique interdisciplinary perspective bridging social networks, big data, cyber-physical systems, and reliability
- Presents novel theoretical foundations for assured social sensing and modeling humans as sensors
- Includes case studies and application examples based on real data sets
- Supplemental material includes sample datasets and fact-finding software that implements the main algorithms described in the book

DESCRIPTION

Increasingly, human beings are sensors engaging directly with the mobile Internet. Individuals can now share real-time experiences at an unprecedented scale. *Social Sensing: Building Reliable Systems on Unreliable Data* looks at recent advances in the emerging field of social sensing, emphasizing the key problem faced by application designers: how to extract reliable information from data collected from largely unknown and possibly unreliable sources. The book explains how a myriad of societal applications can be derived from this massive amount of data collected and shared by average individuals. The title offers theoretical foundations to support emerging data-driven cyber-physical applications and touches on key issues such as privacy. The authors present solutions based on recent research and novel ideas that leverage techniques from cyber-physical systems, sensor networks, machine learning, data mining, and information fusion.

ISBN: 978-0-12-800867-6

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 214

AUDIENCE

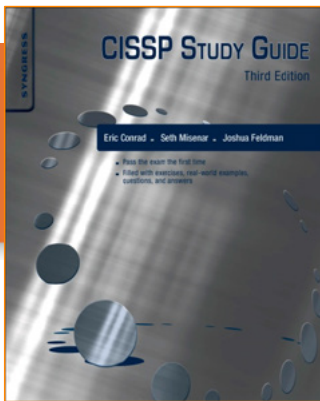
Researchers or graduate students in sensor networks and information processing as well as data mining, machine learning, social networks, information fusion, and embedded computing

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CISSP Study Guide, 3e

Eric Conrad CISSP, GIAC GSE, GPEN, GCIH, GCIA, GCFA, GAWN, GSEC, GISP, GCED, Senior SANS instructor and CTO, Backshore Communications
Seth Misenar CISSP, GIAC GSE, GPEN, GCIH, GCIA, GCFA, GWAPT, GCWN, GSEC, Senior SANS instructor and Lead Consultant, Context Security, LLC.
Joshua Feldman CISSP, Vice President: IT Risk, Moody's Investments



This book will help users pass the CISSP exam through its concise and practical instruction that includes two practice exams, exam objectives, unique terms and definitions, over 500 questions, and stepped chapter-ending questions for self-study at any level.

KEY FEATURES

- Provides the most complete and effective study guide to prepare users for passing the CISSP exam, giving them exactly what they need to pass the test
- Authored by Eric Conrad who has prepared hundreds of professionals for passing the CISSP exam through SANS, a popular and well-known organization for information security professionals
- Covers all of the new information in the Common Body of Knowledge updated in January 2015, and also provides two exams, tiered end-of-chapter questions for a gradual learning curve, and a complete self-test appendix

DESCRIPTION

CISSP Study Guide, Third Edition provides readers with information on the CISSP certification, the most prestigious, globally-recognized, vendor-neutral exam for information security professionals.

With over 100,000 professionals certified worldwide, and many more joining their ranks, this new third edition presents everything a reader needs to know on the newest version of the exam's Common Body of Knowledge.

The eight domains are covered completely and as concisely as possible, allowing users to ace the exam. Each domain has its own chapter that includes a specially-designed pedagogy to help users pass the exam, including clearly-stated exam objectives, unique terms and definitions, exam warnings, "learning by example" modules, hands-on exercises, and chapter ending questions.

ISBN: 978-0-12-802437-9

PREVIOUS EDITION ISBN:

978-1-59749-961-3

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 600

AUDIENCE

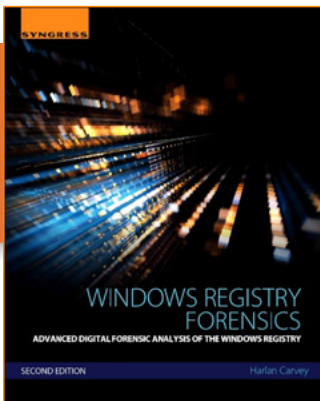
information security professionals,
IT professionals, computer and
information systems managers,
systems administrators, application
developers, network administrators,
security managers, security analysts,
directors of security, security
auditors, security engineers,
compliance specialists

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Windows Registry Forensics, 2e

Advanced Digital Forensic Analysis of the Windows Registry

Harlan Carvey DFIR analyst, presenter, and open-source tool author



The second edition of this go-to reference provides readers with the information, tools, and processes needed to find and analyze forensic evidence using Windows Registry. Tools and techniques for post mortem analysis are discussed at length to take users beyond the current use of viewers and into real analysis of data contained in the Registry.

ISBN: 978-0-12-803291-6

PREVIOUS EDITION ISBN:

9781597495806

PUB DATE: June 2016

FORMAT: Paperback

PAGES: c. 260

AUDIENCE

Information Security professionals at all levels, digital forensic examiners and investigators, InfoSec consultants, attorneys, law enforcement officers. Also useful to forensic training vendors, government training courses, universities, and high-tech crime associations.

KEY FEATURES

- Named a Best Digital Forensics Book by InfoSec Reviews
- Packed with real-world examples using freely available open source tools
- Provides a deep explanation and understanding of the Windows Registry—perhaps the least understood and employed source of information within Windows systems
- Includes a companion website that contains the code and author-created tools discussed in the book
- Features updated, current tools and techniques
- Contains completely updated content throughout, with all new coverage of the latest versions of Windows

DESCRIPTION

Windows Registry Forensics: Advanced Digital Forensic Analysis of the Windows Registry, Second Edition, provides the most in-depth guide to forensic investigations involving Windows Registry. This book is one-of-a-kind, giving the background of the Registry to help users develop an understanding of the structure of registry hive files, as well as information stored within keys and values that can have a significant impact on forensic investigations. Tools and techniques for post mortem analysis are discussed at length to take users beyond the current use of viewers and into real analysis of data contained in the Registry. This second edition continues a ground-up approach to understanding so that the treasure trove of the Registry can be mined on a regular and continuing basis.

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Data Breach Preparation and Response

Breaches are Certain, Impact is Not

Kevvie Fowler Partner and National Cyber Response Leader for KPMG
Canada, GCFA Gold, CISSP



This timely, practical book provides detailed guidance on how to prepare for, manage, and recover from a data breach, including how to create a definitive breach management reference for an entire organization. Features never-before published techniques for identifying, managing, and recovering from both suspected and confirmed breaches.

ISBN: 978-0-12-803451-4

PUB DATE: May 2016

FORMAT: Paperback

PAGES: c. 300

AUDIENCE

Information Security professionals of all levels, digital forensic examiners and investigators, InfoSec consultants, attorneys, law enforcement officers. Also privacy and loss prevention experts, business managers and executives, PR managers and sysadmins.

KEY FEATURES

- Discusses the cyber criminals behind data breaches and the underground dark web forums they use to trade and sell stolen data
- Features never-before published techniques to qualify and discount a suspected breach or to verify and precisely scope a confirmed breach
- Helps identify your sensitive data, and the commonly overlooked data sets that, if stolen, can result in a material breach
- Defines breach response plan requirements and describes how to develop a plan tailored for effectiveness within your organization
- Explains strategies for proactively self-detecting a breach and simplifying a response
- Covers critical first-responder steps and breach management practices, including containing a breach and getting the scope right, the first time
- Shows how to leverage threat intelligence to improve breach response and management effectiveness
- Offers guidance on how to manage internal and external breach communications, restore trust, and resume business operations after a breach, including the critical steps after the breach to reduce breach-related litigation and regulatory fines
- Illustrates how to define your cyber-defensible position to improve data protection and demonstrate proper due diligence practices

DESCRIPTION

Data Breach Preparation and Response: Breaches are Certain, Impact is Not is the first book to provide 360 degree visibility and guidance on how to proactively prepare for and manage a data breach and limit impact. Data breaches are inevitable incidents that can disrupt business operations and carry severe reputational and financial impact, making them one of the largest risks facing organizations today. The effects of a breach can be felt across multiple departments within an organization, who will each play a role in effectively managing the breach. Kevvie Fowler has assembled a team of leading forensics, security, privacy, legal, public relations and cyber insurance experts to create the definitive breach management reference for the whole organization.

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Hiding Behind the Keyboard

Uncovering Covert Communication Methods with Forensic Analysis

Brett Shavers Digital Forensics Practitioner, expert witness, and Adjunct Instructor, University of Washington Digital Forensics program

John Bair MFCE, CCPA, ACE, CMFF, AME, CCI



Provides concrete examples of covert electronic communication techniques for those who truly need protection, as well as those who investigate cybercriminals

KEY FEATURES

- Covers high-level strategies, what they can achieve, and how to implement them
- Shows discovery and mitigation methods using examples, court cases, and more
- Explores how social media sites and gaming technologies can be used for illicit communications activities
- Explores the currently in-use technologies such as TAILS and TOR that help with keeping anonymous online

DESCRIPTION

Hiding Behind the Keyboard: Uncovering Covert Communication Methods with Forensic

Analysis exposes the latest electronic covert communication techniques used by cybercriminals, along with the needed investigative methods for identifying them. The book shows how to use the Internet for legitimate covert communication, while giving investigators the information they need for detecting cybercriminals who attempt to hide their true identity. Intended for practitioners and investigators, the book offers concrete examples on how to communicate securely, serving as an ideal reference for those who truly need protection, as well as those who investigate cybercriminals.

ISBN: 978-0-12-803340-1

PUB DATE: May 2016

FORMAT: Paperback

PAGES: c. 340

AUDIENCE

Information Security practitioners and consultants, public and private sector cybercrime investigators, IT managers, attorneys, law enforcement officers, InfoSec students

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Network Performance and Security

Testing and Analyzing Using Open Source and Low-Cost Tools

Chris Chapman Senior Methodologist for Spirent Communications



This definitive source offers software engineers practical tips and tricks needed to strengthen IT infrastructure using low cost open source tools.

KEY FEATURES

- Offers coherent, consistent guidance for those tasked with securing the network within an organization and ensuring that it is appropriately tested
- Focuses on practical, real world implementation and testing
- Employs a vetted "security testing by example" style to demonstrate best practices and minimize false positive testing
- Gives practical advice for securing BYOD devices on the network, how to test and defend against internal threats, and how to continuously validate a firewall device, software, and configuration
- Provides analysis in addition to step by step methodologies

DESCRIPTION

Network Performance Security: Testing and Analyzing Using Open Source and Low-Cost Tools gives mid-level IT engineers the practical tips and tricks they need to use the best open source or low cost tools available to harden their IT infrastructure. The book details how to use the tools and how to interpret them. *Network Performance Security: Testing and Analyzing Using Open Source and Low-Cost Tools* begins with an overview of best practices for testing security and performance across devices and the network. It then shows how to document assets—such as servers, switches, hypervisor hosts, routers, and firewalls—using publicly available tools for network inventory.

The book explores security zoning the network, with an emphasis on isolated entry points for various classes of access. It shows how to use open source tools to test network configurations for malware attacks, DDoS, botnet, rootkit and worm attacks, and concludes with tactics on how to prepare and execute a mediation schedule of the who, what, where, when, and how, when an attack hits.

Network security is a requirement for any modern IT infrastructure. Using *Network Performance Security: Testing and Analyzing Using Open Source and Low-Cost Tools* makes the network stronger by using a layered approach of practical advice and good testing practices.

ISBN: 978-0-12-803584-9

PUB DATE: May 2016

FORMAT: Paperback

PAGES: c. 228

AUDIENCE

IT engineers, network architects, network product engineers, network designers, Students in Computer Networking and Information Security

COMPUTING

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ISBN: 978-0-12-804454-4

PUB DATE: March 2016

FORMAT: Paperback

PAGES: c. 348

AUDIENCE

Digital Forensic and Information Security professionals

Implementing Digital Forensic Readiness

From Reactive to Proactive Process

Jason Sachowski CISSP-ISSAP, CCFP, CSSLP, SSCP, EnCE, Director Security Forensics & Civil Investigations, Scotiabank



This comprehensive book shows information security professionals how to implement a proactive approach to digital forensics in their organization

KEY FEATURES

- Explores the training needed to ensure competent performance of the handling, collecting, and preservation of digital evidence
- Discusses the importance of how long term data storage must take into consideration confidentiality, integrity, and availability of digital evidence
- Emphasizes how incidents identified through proactive monitoring can be reviewed in terms of business risk
- Includes learning aids such as chapter introductions, objectives, summaries, and definitions

DESCRIPTION

Implementing Digital Forensic Readiness: From Reactive to Proactive Process shows information security and digital forensic professionals how to increase operational efficiencies by implementing a pro-active approach to digital forensics throughout their organization. It demonstrates how digital forensics aligns strategically within an organization's business operations and information security's program. This book illustrates how the proper collection, preservation, and presentation of digital evidence is essential for reducing potential business impact as a result of digital crimes, disputes, and incidents. It also explains how every stage in the digital evidence lifecycle impacts the integrity of data, and how to properly manage digital evidence throughout the entire investigation. Using a digital forensic readiness approach and preparedness as a business goal, the administrative, technical, and physical elements included throughout this book will enhance the relevance and credibility of digital evidence. Learn how to document the available systems and logs as potential digital evidence sources, how gap analysis can be used where digital evidence is not sufficient, and the importance of monitoring data sources in a timely manner. This book offers standard operating procedures to document how an evidence-based presentation should be made, featuring legal resources for reviewing digital evidence.

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ISBN: 978-0-12-809335-1

PUB DATE: February 2016

FORMAT: Paperback

PAGES: c. 190

AUDIENCE

Information Security professionals of all levels, digital forensic examiners and investigators, InfoSec consultants, attorneys, law enforcement officers. Also can sell to forensic training vendors, government training courses, universities, and high-tech crime associations.

Preserving Electronic Evidence for Trial

A Team Approach to the Litigation Hold, Data Collection, and Preservation of Digital Evidence

Ann D. Zeigler JD; admitted, Texas Supreme Court, US District Courts (Texas), Fifth US Court of Appeals

Ernesto F. Rojas CISSP, DFCP, CCFP



Learn the critical steps to take for preserving all types of electronic evidence

KEY FEATURES

- Destroy your electronic evidence, destroy your own case—learn how to avoid falling off this cliff
- Learn how to organize the digital evidence team before the crisis, not in the middle of litigation
- Learn effective communication among forensics consultants, litigators and corporate counsel and management for pre-litigation process planning
- Learn the critical forensics steps your corporate client must take in preserving electronic evidence when they suspect litigation is coming, and why cheerful neglect is not an option

DESCRIPTION

The ability to preserve electronic evidence is critical to presenting a solid case for civil litigation, as well as in criminal and regulatory investigations. *Preserving Electronic Evidence for Trial* provides everyone connected with digital forensics investigation and litigation with a clear and practical hands-on guide to the best practices in preserving electronic evidence.

Corporate management personnel (legal & IT) and outside counsel need reliable processes for the litigation hold – identifying, locating, and preserving electronic evidence. *Preserving Electronic Evidence for Trial* provides the road map, showing you how to organize the digital evidence team before the crisis, not in the middle of litigation. This practice handbook by an internationally known digital forensics expert and an experienced litigator focuses on what corporate and litigation counsel as well as IT managers and forensic consultants need to know to communicate effectively about electronic evidence.

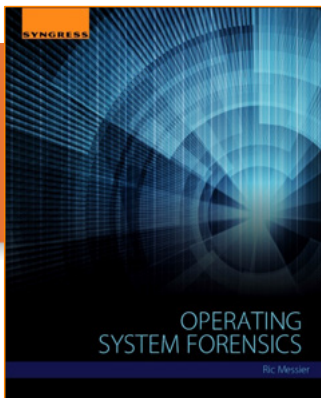
You will find tips on how all your team members can get up to speed on each other's areas of specialization before a crisis arises. The result is a plan to effectively identify and pre-train the critical electronic-evidence team members. You will be ready to lead the team to success when a triggering event indicates that litigation is likely, by knowing what to ask in coordinating effectively with litigation counsel and forensic consultants throughout the litigation progress. Your team can also be ready for action in various business strategies, such as merger evaluation and non-litigation conflict resolution.

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ISBN: 978-0-12-801949-8

PUB DATE: November 2015

FORMAT: Paperback

PAGES: c. 374

AUDIENCE

information security professionals of all levels; digital forensic examiners and investigators; information security consultants; attorneys; law enforcement officers; forensic training vendors; universities.

Operating System Forensics

Ric Messier GSEC, CEH, CISSP, WasHere Consulting, Instructor, Graduate Professional Studies, Brandeis University and Champlain College Division of Information Technology & Sciences



The only book that covers digital forensics investigations of all three major operating systems: Windows, Linux, and Mac OS

KEY FEATURES

- Covers digital forensic investigations of the three major operating systems, including Windows, Linux, and Mac OS
- Presents the technical details of each operating system, allowing users to find artifacts that might be missed using automated tools
- Hands-on exercises drive home key concepts covered in the book.
- Includes discussions of cloud, Internet, and major mobile operating systems such as Android and iOS

DESCRIPTION

Operating System Forensics is the first book to cover all three critical operating systems for digital forensic investigations in one comprehensive reference.

Users will learn how to conduct successful digital forensic examinations in Windows, Linux, and Mac OS, the methodologies used, key technical concepts, and the tools needed to perform examinations.

Mobile operating systems such as Android, iOS, Windows, and Blackberry are also covered, providing everything practitioners need to conduct a forensic investigation of the most commonly used operating systems, including technical details of how each operating system works and how to find artifacts.

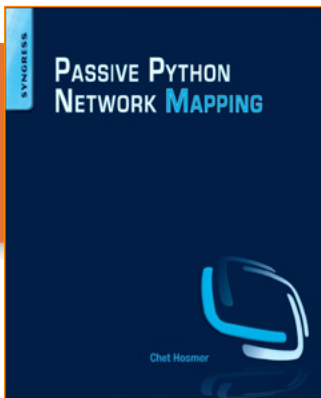
This book walks you through the critical components of investigation and operating system functionality, including file systems, data recovery, memory forensics, system configuration, Internet access, cloud computing, tracking artifacts, executable layouts, malware, and log files. You'll find coverage of key technical topics like Windows Registry, /etc directory, Web browsers caches, Mbox, PST files, GPS data, ELF, and more. Hands-on exercises in each chapter drive home the concepts covered in the book. You'll get everything you need for a successful forensics examination, including incident response tactics and legal requirements. *Operating System Forensics* is the only place you'll find all this covered in one book.

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ISBN: 978-0-12-802721-9

PUB DATE: July 2015

FORMAT: Paperback

PAGES: c. 146

AUDIENCE

IT security professionals, forensics investigators, IT professionals (network administrators, IT managers, security managers, directors of security, etc.), and IT teams working on incident response

Python Passive Network Mapping

P2NMAP

Chet Hosmer Chief Scientist & Sr. Vice President at Allen Corporation and a co-founder of WetStone Technologies, Inc.



An open-source solution for uncovering nefarious network activity

KEY FEATURES

- First book to show you how to use open source Python to conduct passive network mapping
- Provides a new method for conducting incident response and investigating the extent of potential damage to your systems
- Python code forensics toolkit for network mapping included on the companion website

DESCRIPTION

Python Passive Network Mapping: P2NMAP is the first book to reveal a revolutionary and open source method for exposing nefarious network activity.

The "Heartbleed" vulnerability has revealed significant weaknesses within enterprise environments related to the lack of a definitive mapping of network assets. In ***Python Passive Network Mapping***, Chet Hosmer shows you how to effectively and definitively passively map networks. Active or probing methods to network mapping have traditionally been used, but they have many drawbacks - they can disrupt operations, crash systems, and - most importantly - miss critical nefarious activity. You require an accurate picture of the environments you protect and operate in order to rapidly investigate, mitigate, and then recover from these new attack vectors. This book gives you a deep understanding of new innovations to passive network mapping, while delivering open source Python-based tools that can be put into practice immediately.

Python Passive Network Mapping is for practitioners, forensic investigators, IT teams, and individuals who work together when performing incident response and investigating potential damage, or are examining the impacts of new malware threats. Those defending critical infrastructures will have a special interest in this book, as active or probing methods of network mapping are rarely used within these environments as any resulting impacts can be disastrous. ***Python Passive Network Mapping*** is ideally suited for use as a text in a variety of academic programs to expose and engage students in the art of passively mapping enterprise networks, with the added benefit of providing exposure to open source Python solutions.

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Threat Forecasting *Leveraging Big Data for Predictive Analysis*

John Pirc Advisor, HP's CISO on Cyber Security and former lecturer, US Naval Post Graduate School, USA

David DeSanto Director, Product Management, Spirent Communications, San Francisco, CA, USA

Ian Davison Co-Founder and CTO, Bricata

Will Gragido Director, Security Intelligence, NSS Labs



This book discusses the dangers associated with relying on historical data, security incident reports, and network analysis to predict future security breaches, giving readers valuable security insights into unstructured big data, along with tactics on how to use the data to their advantage to reduce risk

ISBN: 978-0-12-800006-9

PUB DATE: June 2016

FORMAT: Paperback

PAGES: c. 384

AUDIENCE

Infosec and IT Professionals, security analysts, data analysts, chief privacy officers, risk officers.

KEY FEATURES

- Discusses the danger of using historic data as the basis for predicting future breaches
- Explains how to use security intelligence as a tool to develop threat forecasting techniques
- Presents case studies and actual data to demonstrate threat data visualization techniques and threat simulation tools
- Explores the usage of kill chain modeling to inform actionable security intelligence
- Presents a methodology that can be used to create a full threat forecast analysis for enterprise networks of any size

DESCRIPTION

Threat Forecasting: Leveraging Big Data for Predictive Analysis discusses the dangers associated with relying on historical data, security incident reports, and network analysis to predict future security breaches. Readers will gain valuable security insights into unstructured big data, along with tactics on how to use the data to their advantage to reduce risk.

Drawing upon years of practical experience and using numerous examples and illustrative case studies, the book discusses important topics, including the danger of using historic data as the basis for predicting future breaches, how to use security intelligence as a tool to develop threat forecasting techniques, and how to use threat data visualization techniques and threat simulation tools. In addition, the book includes a proven methodology that can be used to create a full threat forecast analysis for enterprise networks of any size.

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ISBN: 978-0-12-802042-5

PUB DATE: June 2016

FORMAT: Paperback

PAGES: c. 420

AUDIENCE

IT security professionals (security auditors, security engineers, compliance specialists, etc.); IT professionals (network administrators, IT managers, security managers, security analysts, directors of security, etc.)

Building a Practical Information Security Program

Jason Andress (ISSAP, CISSP, GPEN, CEH) is a seasoned security professional with a depth of experience in both the academic and business worlds



This informative guide will enable both executive management and IT professionals to validate existing information security programs and build new business-driven security programs. Explains how to resolve immediate tactical needs, transform security needs into strategic goals, and ultimately put programs into operation with full lifecycle management.

KEY FEATURES

- Provides a roadmap on how to build a security program that will protect companies from intrusion
- Shows how to focus the security program on its essential mission and move past FUD (fear, uncertainty, and doubt) to provide business value
- Teaches how to build consensus with an effective business-focused program
- Presents readers with best practices on how to translate technical challenges into business requirements, understand when to go big or go home, how to explore in-depth defense strategies, and how to know when to absorb risk

DESCRIPTION

Building a Practical Information Security Program provides users with a strategic view on how to build an information security program that aligns with business objectives. The information provided will enable both executive management and IT managers not only to validate existing security programs, but also to build new business-driven security programs. In addition, the subject matter enables aspiring security engineers to forge a career path to successfully manage a security program, thereby adding value and reducing risk to the business.

The book helps users resolve immediate tactical needs, transform security needs into strategic goals, and ultimately put programs into operation with full lifecycle management. Readers will learn how to translate technical challenges into business requirements, understand when to "go big or go home," explore in-depth defense strategies, and review tactics on when to absorb risk.

There is so much noise, marketing, and fear in the industry now that spending and deploying based on generic products and standards is often fruitless and a costly waste of time and energy. This book shows users how to properly plan and implement an infosec program based on business strategy and results.

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TTL of a Penetration

Henry Dalziel
Branson Matheson



ISBN: 978-0-12-804719-4

PUB DATE: February 2016

FORMAT: Paperback

PAGES: c. 22

AUDIENCE

security professionals, network administrators, home owners

TTL of a Penetration

Henry Dalziel Founder, Concise Ac Ltd, UK
Branson Matheson

SYNGRESS

An overview of security threats posed by multi-function printers

KEY FEATURES

- Looks at TTL of Penetration from the hackers point of view, the hackee's point of view, and lastly an operational point of view.

DESCRIPTION

In this book we are going to discuss the TTL of a Penetration, and in that we are going to talk a little bit about the differences between us and them. We are going to look at a penetration from three different views. We are going to look at it from the hacker's point of view, the hackee's point of view, and lastly an operational point of view.

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Breaking into Information Security Crafting a Custom Career Path to Get the Job You Really Want

Josh More Senior Security Consultant, RJS Smart Security (CISSP, GIAC-GCIH, GIAC-GSLC)

Anthony Stieber has over 18 years of experience in the information technology industry

Chris Liu 15 years of information technology experience, a CISSP and CISM.



A practical guide to advancing in information security and creating your own career path

KEY FEATURES

- The most practical guide to starting your career in information security, or advancing to the next level
- Presented in a “level-up” gaming framework for career progression, with a “Learn, Do, Teach” approach through three tiers of InfoSec jobs
- Provides examples of specific roles and career paths in each job tier so you can identify and max out skills for the role you want
- Learn how to advance to management and training roles, as well as the specific skills you need to become an independent consultant
- Find out about career “booster paths” to help you advance your career at high speed

DESCRIPTION

Whether you want to break into information security, move from one job to another, or transition into management, *Breaking into Information Security* will help. No other book surveys all the different jobs available in the industry, frankly discusses the positives and negatives of each, and what you need to learn to get into and out of each role.

Unlike books that focus on a specific skill set or on how to gain a certification or get a job, this book encompasses the “big picture,” including why certifications, if any, are worthwhile for you. In a profession where new career paths aren’t always clear, *Breaking into Information Security* will teach you how to identify where you are in your career today, understand where you wish to go, and provide proven methods to get there.

From entry-level jobs to the extremely specific skills needed to be an InfoSec consultant, this book covers it all, including in-job skill building, working within the community, and building your skills after hours. If you are seeking to advance in the highly competitive field of information security, this book will give you the edge you need to break in.

ISBN: 978-0-12-800783-9

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 248

AUDIENCE

Junior-level Information Security practitioners, consultants, and IT professionals looking to make the switch into the InfoSec field. An academic audience among information security, computer science, and other IT majors.

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Cyber Security Awareness for Corporate Directors and Board Members

Henry Dalziel
David Willson



ISBN: 978-0-12-804756-9

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 44

AUDIENCE

Corporate Directors and Board Members

Cyber Security Awareness for Corporate Directors and Board Members

David Willson

Henry Dalziel Founder, Concise Ac Ltd, UK

SYNGRESS

A concise overview of the most advanced threat detection techniques for corporate directors and board members.

KEY FEATURES

- Presents the most current threats, detection techniques, and defenses for Corporate Directors and Board Members.

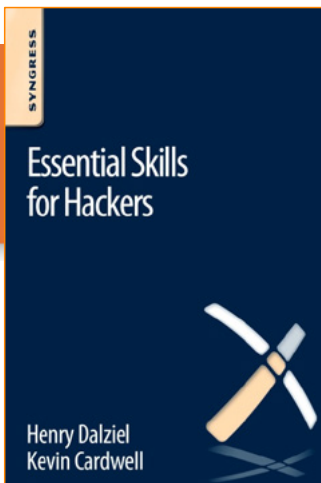
DESCRIPTION

Cyber Security Awareness for Corporate Directors and Board Members is a concise overview of the cyber threat to you, your business, your livelihood, and what you need to do--especially as board members and directors of boards-- to lower the risk, reduce or eliminate liability, and protect reputation. The book details the severity of the treat to companies, and what to do as corporate directors and board members to build a defense against potential breaches.

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Essential Skills for Hackers

Kevin Cardwell

Henry Dalziel Founder, Concise Ac Ltd, UK



An overview of the skills you need to be in the elite hacker family

KEY FEATURES

- Presents a foundation for the skills required to be an elite hacker.

DESCRIPTION

Essential Skills for Hackers is about the skills you need to be in the elite hacker family.

The book will mainly about two things: TCP/IP 101, and Protocol Analysis. The better the hacker, the more we will be able to master TCP/IP. Once the reader understands what TCP/IP is, what it looks like, the book will go into Protocol Analysis and how analyzing the protocol or, in a more general sense, looking at packets on the wire, we will be able to determine what exactly is taking place on a network. By doing this, readers can identify when something on the network doesn't match what it should and, more importantly, can create any type of sequence of events or packets that they want on the network and see how the defenses or the machines that we send them to react.

ISBN: 978-0-12-804755-2

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 40

AUDIENCE

Anyone who wishes to learn about hacking

COMPUTING

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Cyber Security Awareness for CEOs and Management

Henry Dalziel
David Willson



ISBN: 978-0-12-804754-5

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 44

AUDIENCE

CEOs and Management

Cyber Security Awareness for CEOs and Management

David Willson

Henry Dalziel Founder, Concise Ac Ltd, UK

SYNGRESS

An overview of the cyber security threats faced by CEOs and Management

KEY FEATURES

- Presents most current threats posed to CEOs and Management teams.
- Offer detection and defense techniques

DESCRIPTION

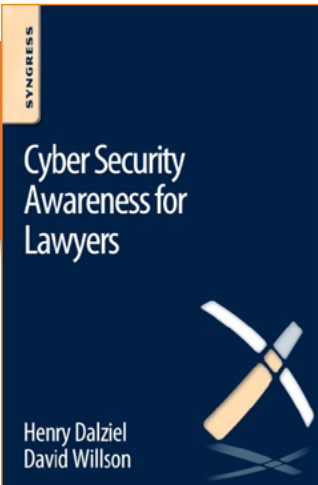
Cyber Security for CEOs and Management is a concise overview of the security threats posed to organizations and networks by the ubiquity of USB Flash Drives used as storage devices. The book will provide an overview of the cyber threat to you, your business, your livelihood, and discuss what you need to do, especially as CEOs and Management, to lower risk, reduce or eliminate liability, and protect reputation all related to information security, data protection and data breaches.

The purpose of this book is to discuss the risk and threats to company information, customer information, as well as the company itself; how to lower the risk of a breach, reduce the associated liability, react quickly, protect customer information and the company's reputation, as well as discuss your ethical, fiduciary and legal obligations.

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Cyber Security Awareness for Lawyers

David Willson

Henry Dalziel Founder, Concise Ac Ltd, UK



An overview of the cyber security threats posed to Lawyers.

KEY FEATURES

- Describes the cyber security threats posed to Lawyers.
- Gives an overview of detection techniques and defenses for these attacks

DESCRIPTION

Cyber Security Awareness for Lawyers is a concise overview of the cyber security threats posed to companies and organizations. The book will provide an overview of the cyber threat to you, your business, your livelihood, and discuss what you need to do--especially as Lawyers--to lower risk, reduce or eliminate liability, and protect reputation all related to information security, data protection and data breaches.

The purpose of this book is to discuss the risk and threats to company information, customer information, as well as the company itself; how to lower the risk of a breach, reduce the associated liability, react quickly, protect customer information and the company's reputation, as well as discuss your ethical, fiduciary and legal obligations.

ISBN: 978-0-12-804720-0

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 50

AUDIENCE

Lawyers

COMPUTING

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Automated Security Analysis of Android and iOS Applications with Mobile Security Framework

Henry Dalziel
Ajin Abraham



ISBN: 978-0-12-804718-7

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 30

AUDIENCE

Security professional, network systems administrators

Automated Security Analysis of Android and iOS Applications with Mobile Security Framework

Henry Dalziel Founder, Concise Ac Ltd, UK
Ajin Abraham

SYNGRESS

A concise overview of security threats posed by top apps.

KEY FEATURES

- An overview of security threats posed by iOS and Android apps.
- Discusses detection techniques and defenses for these attacks

DESCRIPTION

Risky Behaviours in the Top 400 iOS and Android Apps is a concise overview of the security threats posed by the top apps in iOS and Android apps. These apps are ubiquitous on a phones and other mobile devices, and are vulnerable to a wide range digital systems attacks, This brief volume provides security professionals and network systems administrators a much-needed dive into the most current threats, detection techniques, and defences for these attacks.

COMPUTING

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Deploying Secure Containers for Training and Development

Henry Dalziel
Jon Schipp



ISBN: 978-0-12-804717-0

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 45

AUDIENCE

security professionals, IT managers,
network administrators

Deploying Secure Containers for Training and Development

Jon Schipp

Henry Dalziel Founder, Concise Ac Ltd, UK

SYNGRESS

A concise overview of deploying containers for training and development.

KEY FEATURES

- Provides information on using secure containers for training and development.

DESCRIPTION

In the book we will be talking about Deploying Secure Containers for Training and Development. The book covers the technology behind Linux-based containers and what they can be used for. Details on how to use containers in training and development are also provided.

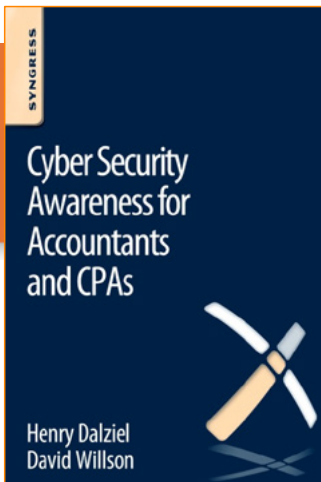
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Cyber Security Awareness for Accountants and CPAs

David Willson

Henry Dalziel Founder, Concise Ac Ltd, UK



An overview of the cyber security threats posed to accountants and CPAs

KEY FEATURES

- Discusses cyber security threats posed to accountants and CPAs
- Explains detection and defense techniques

DESCRIPTION

Cyber Security Awareness for Accountants and CPAs is a concise overview of the cyber security threats posed to companies and organizations. The book will provide an overview of the cyber threat to you, your business, your livelihood, and discuss what you need to do, especially as accountants and CPAs, to lower risk, reduce or eliminate liability, and protect reputation all related to information security, data protection and data breaches.

The purpose of this book is to discuss the risk and threats to company information, customer information, as well as the company itself; how to lower the risk of a breach, reduce the associated liability, react quickly, protect customer information and the company's reputation, as well as discuss your ethical, fiduciary and legal obligations.

ISBN: 978-0-12-804722-4

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 42

AUDIENCE

Accountants and CPAs

COMPUTING

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Meeting People via WiFi and Bluetooth

Henry Dalziel
Joshua Schroeder



ISBN: 978-0-12-804721-7

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 42

AUDIENCE

Any users of WiFi or Bluetooth

Meeting People via WiFi and Bluetooth

Joshua Schroeder

Henry Dalziel Founder, Concise Ac Ltd, UK

SYNGRESS

A concise overview of how to track people using WiFi and Bluetooth technologies

KEY FEATURES

- Offers an overview of how to track people using WiFi and Bluetooth technologies

DESCRIPTION

Meeting People via WiFi and Bluetooth will contain an overview of how to track people using Wireless 802.11 Radio Frequencies (Wi-Fi) and Bluetooth 802.15 Radio Frequencies. The content contained here came from research and materials originally presented at Defcon Wireless CTF Village in August 2015 entitled "Meeting People Via Wi-Fi".

The book will go over the hardware and software needed in order to do this tracking, how to use these particular tools in order to do attribution, and tips for protecting yourself from being attributed via those signals.

COMPUTING

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Security Controls Evaluation, Testing, and Assessment Handbook

Leighton Johnson CTO and Senior Security Engineer for Information Security and Forensics Management Team (ISFMT)



Understand how to assess and evaluate security controls on your system.

KEY FEATURES

- Provides direction on how to use SP800-53A, SP800-115, DOD Knowledge Service, and the NIST Families assessment guides to implement thorough evaluation efforts for the security controls in your organization.
- Learn how to implement proper evaluation, testing, and assessment procedures and methodologies with step-by-step walkthroughs of all key concepts.
- Shows you how to implement assessment techniques for each type of control, provide evidence of assessment, and proper reporting techniques.

DESCRIPTION

Security Controls Evaluation, Testing, and Assessment Handbook provides a current and well-developed approach to evaluation and testing of security controls to prove they are functioning correctly in today's IT systems. This handbook shows you how to evaluate, examine, and test installed security controls in the world of threats and potential breach actions surrounding all industries and systems. If a system is subject to external or internal threats and vulnerabilities - which most are - then this book will provide a useful handbook for how to evaluate the effectiveness of the security controls that are in place.

Security Controls Evaluation, Testing, and Assessment Handbook shows you what your security controls are doing and how they are standing up to various inside and outside threats. This handbook provides guidance and techniques for evaluating and testing various computer security controls in IT systems.

Author Leighton Johnson shows you how to take FISMA, NIST Guidance, and DOD actions and provide a detailed, hands-on guide to performing assessment events for information security professionals who work with US federal agencies. As of March 2014, all agencies are following the same guidelines under the NIST-based Risk Management Framework. This handbook uses the DOD Knowledge Service and the NIST Families assessment guides as the basis for needs assessment, requirements, and evaluation efforts for all of the security controls. Each of the controls can and should be evaluated in its own unique way, through testing, examination, and key personnel interviews. Each of these methods is discussed.

ISBN: 978-0-12-802324-2

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 658

AUDIENCE

IT security professionals (security auditors and engineers, compliance specialists, etc.); IT professionals (network administrators, IT managers, security managers and analysts, directors of security, etc.)

COMPUTING

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ISBN: 978-0-12-804526-8

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 162

AUDIENCE

Information Security professionals of all levels, digital forensic examiners and investigators, InfoSec consultants, hackers, penetration testers, government officials and law enforcement officers

Digital Forensics

Threatscape and Best Practices

Edited by: **John Sammons** Assistant Professor and Director of the Digital Forensics and Information Assurance program at Marshall University, Huntington, WV, USA



Expert analysis of the threatscape and attack vectors spanning all the key areas of information security and digital forensics

KEY FEATURES

- The only book to provide comprehensive overview and analysis of the threat landscape and best practices for defending against various attack vectors.
- Most resources focus on specific types of threats or attacks – this book gives you an overview of the lay of the land that helps practitioners and researchers alike in understanding how the strategic environment is evolving.
- Learn about the threatscape and best practices for defense in five key areas: Digital Forensics, Information Assurance/Security, CyberCrime, Open Source Intelligence, and Electronic Discovery.

DESCRIPTION

Information security practitioners are faced with a never-ending stream of threats and attacks, and need to be aware of how these threats and attacks are continually evolving. One of the primary challenges is keeping up with the sheer volume of information around these threats and making sense of the patterns as they evolve. *Information Security and Digital Forensics: Threatscape and Best Practices* provides you with incisive analysis from a panel of expert authors, led by John Sammons, bestselling author of *The Basics of Digital Forensics*.

This complete reference surveys the landscape of information security threats and provides a coherent overview of the threatscape in a broad range of topics, providing practitioners and researchers alike with a comprehensive and coherent overview of the threat landscape and what can be done to manage and prepare for it, including insights in each of five core topics: Digital Forensics, Information Assurance/Security, CyberCrime, Open Source Intelligence, and Electronic Discovery.

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Thor's OS Xodus

Why And How I Left Windows For OS X

Timothy "Thor" Mullen Independent programming consultant and author of Thor's Microsoft Security Bible



An amazing resource and roadmap that guides users on a detailed journey as they leave Microsoft behind to embrace the power of OSX, a truly modern operating system

KEY FEATURES

- Provides the best way to migrate from Microsoft products to OSX with information found in no other text
- The most complete roadmap for entities who want to move away from Microsoft and decouple their dependency on Microsoft products
- Authored by Thor Mullen, Principal Security Architect for a multi-billion dollar commerce platform, who teaches users how to create a secure OSX installation
- Unique resource that provides valuable information on moving from IIS to Apache, from MS SQL Server to MySQL, from .NET to PHP

DESCRIPTION

Thor's OS Xodus: Securely Migrating from Microsoft Windows to Mac OS X provides readers with everything they need to securely and successfully migrate from Microsoft to Mac. It includes information that can be found nowhere else, enabling users to execute a MSFT to OS X migration seamlessly and with minimal downtime.

The text is the most complete roadmap for entities that want to move away from Microsoft and decouple their dependency on Microsoft products. It is a perfect choice for enterprise computing, providing the ease and simplicity of a UI that can also be incredibly customized via configuration files because of its BSD core.

The text, authored by Thor Mullen, the founder of the "Hammer of God" security co-op group and Principal Security Architect for a worldwide, multi-billion dollar commerce platform, provides the perfect combination of Windows and Unix.

ISBN: 978-0-12-410463-1

PUB DATE: November 2015

FORMAT: Paperback

PAGES: c. 210

AUDIENCE

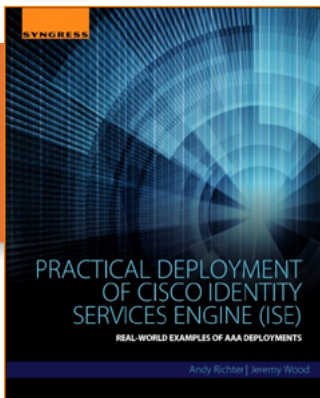
Information Security professionals of all levels, systems architects, app developers, project managers, IT decision makers, and a general consumer audience for those who want to migrate their systems.

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Practical Deployment of Cisco Identity Services Engine (ISE)

Real-World Examples of AAA Deployments

Andy Richter Principle Network Security Engineer, Presidio Networked Solutions

Jeremy Wood Network Engineer, Presidio Networked Solutions



ISE can be hard—Andy Richter and Jeremy Wood share their expertise and real-world examples of how to make it work for you

ISBN: 978-0-12-804457-5

PUB DATE: November 2015

FORMAT: Paperback

PAGES: c. 290

AUDIENCE

Infosec professionals and consultants, IT security analysts, engineers, architects, network administrators, and security leads who are charged with deploying Cisco ISE and those who want to extend and optimize their current deployment.

DESCRIPTION

With the proliferation of mobile devices and bring-your-own-devices (BYOD) within enterprise networks, the boundaries of where the network begins and ends have been blurred. Cisco Identity Services Engine (ISE) is the leading security policy management platform that unifies and automates access control to proactively enforce role-based access to enterprise networks. In *Practical Deployment of Cisco Identity Services Engine (ISE)*, Andy Richter and Jeremy Wood share their expertise from dozens of real-world implementations of ISE and the methods they have used for optimizing ISE in a wide range of environments.

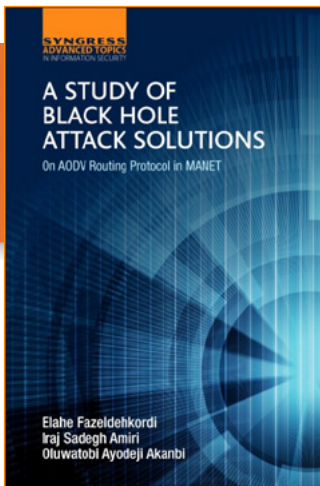
ISE can be difficult, requiring a team of security and network professionals, with the knowledge of many different specialties. *Practical Deployment of Cisco Identity Services Engine (ISE)* shows you how to deploy ISE with the necessary integration across multiple different technologies required to make ISE work like a system. Andy Richter and Jeremy Wood explain end-to-end how to make the system work in the real world, giving you the benefit of their ISE expertise, as well as all the required ancillary technologies and configurations to make ISE work.

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A Study of Black Hole Attack Solutions

On AODV Routing Protocol in MANET

Elahe Fazalidehkordi B. Sc (Electrical Engineering Electronics), M. Sc (Information Security)

I.S. Amiri B. Sc (Applied Physics), M. Sc (Optics and Optoelectronics) PhD (Nanophotonics), Postdoctoral Researcher (Experiment Physics and Photonics)

Oluwatobi Ayodeji Akanbi B. Sc (Information Technology – Software Engineering), M. Sc (Information Security)



KEY FEATURES

- Elaborates on the basics of wireless networks, MANETs
- Explains the significance behind the need of wireless networks and MANET security
- Understand MANET routing protocols, namely the ADOV method

DESCRIPTION

Mobile Ad Hoc Networks (MANETs) are a popular form of network for data transfer due to the fact that they are dynamic, require no fixed infrastructure, and are scalable. However, MANETs are particularly susceptible to several different types of widely perpetrated cyberattack. One of the most common hacks aimed at MANETs is the Black Hole attack, in which a particular node within the network displays itself as having the shortest path for the node whose packets it wants to intercept. Once the packets are drawn to the Black Hole, they are then dropped instead of relayed, and the communication of the MANET is thereby disrupted, without knowledge of the other nodes in the network. Due to the sophistication of the Black Hole attack, there has been a lot of research conducted on how to detect it and prevent it. The authors of this short format title provide their research results on providing an effective solution to Black Hole attacks, including introduction of new MANET routing protocols that can be implemented in order to improve detection accuracy and network parameters such as total dropped packets, end-to-end delay, packet delivery ratio, and routing request overhead.

ISBN: 978-10-12-805367-6

PUB DATE: November 2015

FORMAT: Paperback

PAGES: c. 110

AUDIENCE

Information security researchers, professionals and consultants, hackers and penetration testers, as well as high-level undergrad and post-graduate students.

COMPUTING

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PCI DSS 3.1

The Standard That Killed SSL



Branden R. Williams

ISBN: 978-0-12-804627-2

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 34

AUDIENCE

IT Security Professionals (Security Auditors, Security Engineers, Compliance Specialists, etc.), IT Professionals (Network Administrators, IT Managers, Security Managers, Security Analysts, Directors of Security, etc.)

PCI DSS 3.1

The Standard That Killed SSL

Branden R. Williams CISSP, CISM, CPISA, CPISM, and CTO of a Global Security Consulting group at a major security firm in Flower Mound, TX



KEY FEATURES

- Includes all system updates to the new version of PCI DSS 3.1
- Details and describes each update and enhancement
- Includes case studies that illustrate when and where these changes will effect and improve your enterprise

DESCRIPTION

PCI DSS has recently updated its standard to 3.1. While the changes are fairly minor in nature, there are massive implications to companies relying on SSL as a scope reducing tool inside their enterprise. This update book goes through the specific changes to PCI DSS 3.1, and includes new case studies that discuss the specific implications for making the change to 3.1. This concise supplement also includes a detailed explanation of each changed requirement and how it will impact your environment. *PCI Compliance, 3.1 Addendum* serves as an update to Syngress' comprehensive reference volume *PCI Compliance, Fourth Edition*.

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ISBN: 978-0-12-803405-7

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 206

AUDIENCE

IT Security Professionals, IT Professionals and anyone interested in protecting their data and identity online

You: For Sale

Protecting Your Personal Data and Privacy Online

Stuart Sumner Editor of Computing, UK.



Tech firms track every keystroke online and sell the data – learn what you can do to protect personal data and privacy in the face of these invasive practices

KEY FEATURES

- Provides a clear picture of how companies and governments harvest and use personal data every time someone logs on
- Describes exactly what these firms do with the data once they have it – and what you can do to stop it
- Learn about the dangers of unwittingly releasing private data to tech firms, including interviews with top security experts, black market data traders, law enforcement and privacy groups
- Understand the legal information and future trends that make this one of the most important issues today

DESCRIPTION

Everything we do online, and increasingly in the real world, is tracked, logged, analyzed, and often packaged and sold on to the highest bidder. Every time you visit a website, use a credit card, drive on the freeway, or go past a CCTV camera, you are logged and tracked. Every day billions of people choose to share their details on social media, which are then sold to advertisers.

The Edward Snowden revelations that governments - including those of the US and UK – have been snooping on their citizens, have rocked the world. But nobody seems to realize that this has already been happening for years, with firms such as Google capturing everything you type into a browser and selling it to the highest bidder. Apps take information about where you go, and your contact book details, harvest them and sell them on – and people just click the EULA without caring. No one is revealing the dirty secret that is the tech firms harvesting customers' personal data and selling it for vast profits – and people are totally unaware of the dangers.

You: For Sale is for anyone who is concerned about what corporate and government invasion of privacy means now and down the road. The book sets the scene by spelling out exactly what most users of the Internet and smart phones are exposing themselves to via commonly used sites and apps such as facebook and Google, and then tells you what you can do to protect yourself. The book also covers legal and government issues as well as future trends.

With interviews of leading security experts, black market data traders, law enforcement and privacy groups, *You: For Sale* will help you view your personal data in a new light, and understand both its value, and its danger.

COMPUTING

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Infosec Management Fundamentals



Henry Dalziel

ISBN: 978-0-12-804172-7

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 60

AUDIENCE

Experienced professionals as well as those new to the industry.

Infosec Management Fundamentals

Henry Dalziel Founder, Concise Ac Ltd, UK

Teaches best practices on information security management, risks and controls within the context of an overall information security management system (ISMS).

KEY FEATURES

- Teaches ISO/IEC 27000 best practices on information security management
- Discusses risks and controls within the context of an overall information security management system (ISMS)
- Provides foundational information for experienced professionals as well as those new to the industry.

DESCRIPTION

Infosec Management Fundamentals is a concise overview of the Information Security management concepts and techniques, providing a foundational template for both experienced professionals and those new to the industry. This brief volume will also appeal to business executives and managers outside of infosec who want to understand the fundamental concepts of Information Security and how it impacts their business decisions and daily activities.

COMPUTING

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Next Generation Red Teaming



Henry Dalziel

ISBN: 978-0-12-804171-0

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 34

AUDIENCE

Cyber Security professionals

Next Generation Red Teaming

Henry Dalziel Founder, Concise Ac Ltd, UK

SYNGRESS

If you are a Red Team Technician, and want to learn how to build a next generation Red Team, then this course explains how to do it

"...It's a fast read that introduces the main things you need to keep in mind if you want to engage in red teaming, and offers a fresh perspective on the subject,..."--**Help Net Security, *Next Generation Red Teaming***

KEY FEATURES

- Teaches readers how to identify systemic security issues based on the analysis of vulnerability and configuration data
- Demonstrates the key differences between Red Teaming and Penetration Testing
- Shows how to build a Red Team and how to identify different operational threat environments.

DESCRIPTION

Red Teaming is can be described as a type of wargaming. In private business, penetration testers audit and test organization security, often in a secretive setting. The entire point of the Red Team is to see how weak or otherwise the organization's security posture is. This course is particularly suited to CISO's and CTO's that need to learn how to build a successful Red Team, as well as budding cyber security professionals who would like to learn more about the world of information security.

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Securing Social Media in the Enterprise



Henry Dalziel

ISBN: 978-0-12-804180-2

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 38

AUDIENCE

security professionals and network systems administrators

Securing Social Media in the Enterprise

Henry Dalziel Founder, Concise Ac Ltd, UK

SYNGRESS

A roadmap for the best practices of social media security.

KEY FEATURES

Teaches how to:

- Use of social engineering techniques
- Mimic threat behaviours
- Categorize different classes of attacks (e.g., passive, active, insider, close-in, distribution, etc.)
- Quantify different operational threat environments
- Categorize general attack stages

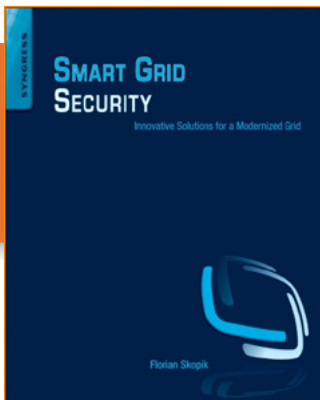
DESCRIPTION

Securing Social Media in the Enterprise is a concise overview of the security threats posed by the use of social media sites and apps in enterprise network environments. Social media sites and apps are now a ubiquitous presence within enterprise systems and networks, and are vulnerable to a wide range of digital systems attacks. This brief volume provides security professionals and network systems administrators a much-needed dive into the most current threats, detection techniques, and defenses for these attacks, and provides a roadmap for best practices to secure and manage social media within the enterprise.

COMPUTING

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ISBN: 978-0-12-802122-4

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 300

AUDIENCE

Research engineers and scientists conducting research in ICT Security in power engineering. May also be of interest to managers, information security researchers, practitioners, analysts, auditors, consultants, and decision-makers, as well as government policy makers.

Smart Grid Security

Innovative Solutions for a Modernized Grid

Edited by: **Florian Skopik** Scientist and Senior Project Manager, ICT Security Research Team at the Austrian Institute of Technology
Paul Dr. Smith



A top panel of thought leaders presents leading-edge research in Smart Grid security from a holistic perspective.

KEY FEATURES

- Presents the most current and leading edge research on Smart Grid security from a holistic standpoint, featuring a panel of top experts in the field.
- Includes coverage of risk management, operational security, and secure development of the Smart Grid.
- Covers key technical topics, including threat types and attack vectors, threat case studies, smart metering, smart home, e- mobility, smart buildings, DERs, demand response management, distribution grid operators, transmission grid operators, virtual power plants, resilient architectures, communications protocols and encryption, as well as physical security.

DESCRIPTION

The Smart Grid security ecosystem is complex and multi-disciplinary, and relatively under-researched compared to the traditional information and network security disciplines. While the Smart Grid has provided increased efficiencies in monitoring power usage, directing power supplies to serve peak power needs and improving efficiency of power delivery, the Smart Grid has also opened the way for information security breaches and other types of security breaches. Potential threats range from meter manipulation to directed, high-impact attacks on critical infrastructure that could bring down regional or national power grids. It is essential that security measures are put in place to ensure that the Smart Grid does not succumb to these threats and to safeguard this critical infrastructure at all times.

Dr. Florian Skopik is one of the leading researchers in Smart Grid security, having organized and led research consortia and panel discussions in this field. **Smart Grid Security** will provide the first truly holistic view of leading edge Smart Grid security research. This book does not focus on vendor-specific solutions, instead providing a complete presentation of forward-looking research in all areas of Smart Grid security. The book will enable practitioners to learn about upcoming trends, scientists to share new directions in research, and government and industry decision-makers to prepare for major strategic decisions regarding implementation of Smart Grid technology.

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Cloud Storage Security

A Practical Guide

Aaron Wheeler 3 Sigma Research and adjunct faculty, Valencia College, FL, USA

Michael Winburn Founder, 3 Sigma Research, FL, USA



Learn the risks associated with cloud-based data storage from a security and privacy perspective

A Volume in the Computer Science Reviews and Trends Series.

KEY FEATURES

- Describes the history and the evolving nature of cloud storage and security
- Explores the threats to privacy and security when using free social media applications that use cloud storage
- Covers legal issues and laws that govern privacy, compliance, and legal responsibility for enterprise users
- Provides guidelines and a security checklist for selecting a cloud-storage service provider
- Includes case studies and best practices for securing data in the cloud
- Discusses the future of cloud computing

DESCRIPTION

Cloud Storage Security: A Practical Guide introduces and discusses the risks associated with cloud-based data storage from a security and privacy perspective. Gain an in-depth understanding of the risks and benefits of cloud storage illustrated using a Use-Case methodology. The authors also provide a checklist that enables the user, as well as the enterprise practitioner to evaluate what security and privacy issues need to be considered when using the cloud to store personal and sensitive information.

ISBN: 978-0-12-802930-5

PUB DATE: July 2015

FORMAT: Paperback

PAGES: c. 136

AUDIENCE

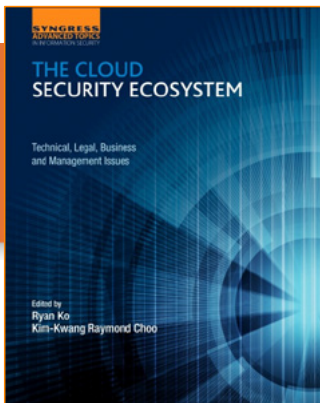
IT Professionals responsible for implementing and explaining cloud data security policies, graduate students and researchers that work in the field of cloud computing and information security.

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ISBN: 978-0-12-801595-7

PUB DATE: June 2015

FORMAT: Paperback

PAGES: c. 530

AUDIENCE

cloud security engineers and managers; information security researchers, practitioners, analysts, auditors, and decision-makers; business and management researchers and policy-makers

The Cloud Security Ecosystem

Technical, Legal, Business and Management Issues

Ryan Ko Senior Lecturer, University of Waikato, New Zealand

Raymond Choo Fulbright Scholar and Senior Lecturer, University of South Australia, Research Director, Cloud Security Alliance, Australia Chapter



Explore cloud security across disciplines, including technical, legal, and business management

KEY FEATURES

- Presents the most current and leading-edge research on cloud security from a multi-disciplinary standpoint, featuring a panel of top experts in the field
- Focuses on the technical, legal, and business management issues involved in implementing effective cloud security, including case examples
- Covers key technical topics, including cloud trust protocols, cryptographic deployment and key management, mobile devices and BYOD security management, auditability and accountability, emergency and incident response, as well as cloud forensics
- Includes coverage of management and legal issues such as cloud data governance, mitigation and liability of international cloud deployment, legal boundaries, risk management, cloud information security management plans, economics of cloud security, and standardization efforts

DESCRIPTION

Drawing upon the expertise of world-renowned researchers and experts, *The Cloud Security Ecosystem* comprehensively discusses a range of cloud security topics from multi-disciplinary and international perspectives, aligning technical security implementations with the most recent developments in business, legal, and international environments. The book holistically discusses key research and policy advances in cloud security – putting technical and management issues together with an in-depth treatise on a multi-disciplinary and international subject. The book features contributions from key thought leaders and top researchers in the technical, legal, and business and management aspects of cloud security. The authors present the leading edge of cloud security research, covering the relationships between differing disciplines and discussing implementation and legal challenges in planning, executing, and using cloud security.

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Securing SQL Server, 3e

Protecting Your Database from Attackers

Denny Cherry (MCSA, MCDBA, MCTS, MCITP, MCM) has been working with Microsoft technology for over 15 years starting with Windows 3.51 and SQL Server 6.5.



Secure your SQL Server database so the outside world can't access your internal data.

"Denny Cherry is what would happen if Bill Gates and AC/DC got together to create a sibling. He's a bare-knuckles, no-holds-barred technologist, and you can bet that if he tells you that something works or doesn't work, he's speaking from experience. Active in the community, his passion is sharing. You'll enjoy this book."

-Bucky Wood, Senior Technology Specialist, Microsoft

KEY FEATURES

- Presents hands-on techniques for protecting your SQL Server database from intrusion and attack
- Provides the most in-depth coverage of all aspects of SQL Server database security, including a wealth of new material on Microsoft SQL Server 2014.
- Explains how to set up your database securely, how to determine when someone tries to break in, what the intruder has accessed or damaged, and how to respond and mitigate damage if an intrusion occurs.

DESCRIPTION

SQL server is the most widely-used database platform in the world, and a large percentage of these databases are not properly secured, exposing sensitive customer and business data to attack.

In *Securing SQL Server, Third Edition*, you will learn about the potential attack vectors that can be used to break into SQL server databases as well as how to protect databases from these attacks. In this book, Denny Cherry - a Microsoft SQL MVP and one of the biggest names in SQL server - will teach you how to properly secure an SQL server database from internal and external threats using best practices as well as specific tricks that the author employs in his role as a consultant for some of the largest SQL server deployments in the world.

Fully updated to cover the latest technology in SQL Server 2014, this new edition walks you through how to secure new features of the 2014 release. New topics in the book include vLANs, setting up RRAS, anti-virus installs, key management, moving from plaintext to encrypted values in an existing application, securing Analysis Services Objects, Managed Service Accounts, OS rights needed by the DBA, SQL Agent Security, Table Permissions, Views, Stored Procedures, Functions, Service Broker Objects, and much more.

ISBN: 978-0-12-801275-8

PREVIOUS EDITION ISBN:

978-1-59749-947-7

PUB DATE: April 2015

FORMAT: Paperback

PAGES: c. 440

AUDIENCE

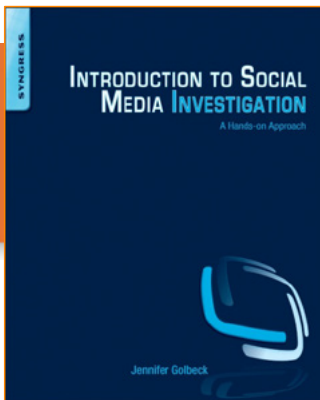
information security professionals; administrators of databases, systems, and networks; application developers; IT and security managers; security auditors; security engineers; compliance specialists.

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ISBN: 978-0-12-801656-5

PUB DATE: March 2015

FORMAT: Paperback

PAGES: c. 288

AUDIENCE

Computer security professionals,
digital investigators in law
enforcement, investigative
journalists

Introduction to Social Media Investigation

A Hands-on Approach

Jennifer Golbeck College of Information Studies, University of Maryland,
College Park, MD, USA



Learn how to investigate people of interest through open, public sources like Facebook, Twitter, Foursquare, and more

KEY FEATURES

- Presents an overview of social media sites, information types, privacy policies, and other general issues relevant to investigating individuals online
- Discusses the special skills and techniques needed when conducting investigations using social media
- Includes hands-on tutorials and case studies using Facebook, LinkedIn, Twitter, and other social media sites using proven investigative techniques
- Shows how to gather additional data using advanced techniques such as crowdsourcing, data mining, and network analysis

DESCRIPTION

If you're interested in using social media as an investigative tool, *Introduction to Social Media Investigation* will show you how! Social networks and social media, like Facebook, Twitter, and Foursquare, are some of the most popular services on the Web, with hundreds of millions of users. The public information that people share on these sites can be valuable for anyone interested in investigating people of interest through open, public sources.

Social media as an investigative device is in its infancy and not well understood. This book presents an overview of social media and discusses special skills and techniques to use when conducting investigations. The book features hands-on tutorials and case studies and offers additional data-gathering techniques.

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Mobile Data Loss

Threats and Countermeasures

Michael T. Raggo CISSP, NSA-IAM, ACE, CSI



Secure your employees' mobile devices and protect enterprise data against data loss threats.

KEY FEATURES

- Outlines differences in mobile devices versus PCs
- Reviews mobile threat landscape using a hacker mind-set to outline risks and attack vectors
- Summarizes the tools and techniques for implementing enterprise countermeasures
- Maps mobile to common security compliances including PCI, HIPAA, and CJIS
- Provides a defense-in-depth methodology and strategy for enterprises to minimize data loss

DESCRIPTION

The mobile threat landscape is evolving bringing about new forms of data loss. No longer can organizations rely on security policies designed during the PC era. Mobile is different and therefore requires a revised approach to countermeasures to mitigate data loss. Understanding these differences is fundamental to creating a new defense-in-depth strategy designed for mobile. *Mobile Data Loss: Threats & Countermeasures* reviews the mobile threat landscape using a hacker mind-set to outline risks and attack vectors that include malware, risky apps, operating system compromises, network attacks, and user behaviours. This provides the basis for then outlining countermeasures for defining a holistic mobile security methodology that encompasses proactive protections, response mechanisms, live monitoring, and incident response. Designing a comprehensive mobile security strategy is key. *Mobile Data Loss: Threats & Countermeasures* outlines the threats and strategies for protecting devices from a plethora of data loss vectors.

ISBN: 978-0-12-802864-3

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 46

AUDIENCE

IT and IT security professionals,
mobile device users, security
professionals

COMPUTING

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Automating Open Source Intelligence

Algorithms for OSINT

Robert Layton Research Fellow at the Internet Commerce Security Laboratory, Federation University Australia

Paul A Watters Professor of Information Technology, Massey University, New Zealand



This book provides the state-of-the-art on the algorithms necessary for open source intelligence gathering, presenting information on the extraction of actionable intelligence from openly available sources, including news broadcasts, public repositories, and more recently, social media.

ISBN: 978-0-12-802916-9

PUB DATE: December 2015

FORMAT: Paperback

PAGES: c. 212

AUDIENCE

Researchers in social media and computer security. Computer security professionals, digital investigators in law enforcement.

KEY FEATURES

- Presents a coherent set of methods and processes for automating OSINT
- Focuses on algorithms and applications allowing the practitioner to get up and running quickly
- Includes fully developed case studies on the digital underground and predicting crime through OSINT
- Discusses the ethical considerations when using publicly available online data

DESCRIPTION

Algorithms for Automating Open Source Intelligence (OSINT) presents information on the gathering of information and extraction of actionable intelligence from openly available sources, including news broadcasts, public repositories, and more recently, social media. As OSINT has applications in crime fighting, state-based intelligence, and social research, this book provides recent advances in text mining, web crawling, and other algorithms that have led to advances in methods that can largely automate this process.

The book is beneficial to both practitioners and academic researchers, with discussions of the latest advances in applications, a coherent set of methods and processes for automating OSINT, and interdisciplinary perspectives on the key problems identified within each discipline.

Drawing upon years of practical experience and using numerous examples, editors Robert Layton, Paul Watters, and a distinguished list of contributors discuss Evidence Accumulation Strategies for OSINT, Named Entity Resolution in Social Media, Analyzing Social Media Campaigns for Group Size Estimation, Surveys and qualitative techniques in OSINT, and Geospatial reasoning of open data.

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ISBN: 978-0-12-802964-0

PUB DATE: November 2015

FORMAT: Paperback

PAGES: c. 226

AUDIENCE

Information security professionals, system administrators, and power users using Google's powerful and at times complex search features to find sensitive information that should *not* be publicly available on the Web

Google Hacking for Penetration Testers, Third Edition, 3e

Johnny Long A Christian by grace, a professional hacker by trade, a pirate by blood, a ninja in training, a security researcher and author who lurks at his website (<http://johnny.ihackstuff.com>) and is the founder of Hackers For Charity (<http://ihackcharities.org>), an organization that provides hackers with job experience while leveraging their skills for charities that need them

Bill Gardner Bill Gardner OSCP, i-Net+, Security+, Asst. Prof. at Marshall University

Justin Brown Information Security Professional at One Worlds Lab



A completely new edition of the ultimate guide to Google hacking techniques

KEY FEATURES

- Third edition of the seminal work on Google hacking
- Google hacking continues to be a critical phase of reconnaissance in penetration testing and Open Source Intelligence (OSINT)
- Features cool new hacks such as finding reports generated by security scanners and back-up files, finding sensitive info in WordPress and SSH configuration, and all new chapters on scripting Google hacks for better searches as well as using Google hacking with other search engines and APIs

DESCRIPTION

Google is the most popular search engine ever created, but Google's search capabilities are so powerful, they sometimes discover content that no one ever intended to be publicly available on the Web, including social security numbers, credit card numbers, trade secrets, and federally classified documents. *Google Hacking for Penetration Testers, Third Edition*, shows you how security professionals and system administrators manipulate Google to find this sensitive information and "self-police" their own organizations.

You will learn how Google Maps and Google Earth provide pinpoint military accuracy, see how bad guys can manipulate Google to create super worms, and see how they can "mash up" Google with Facebook, LinkedIn, and more for passive reconnaissance.

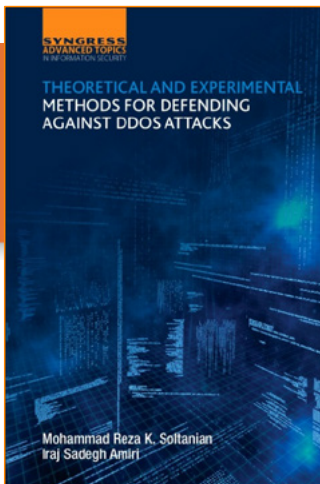
This third edition includes completely updated content throughout and all new hacks such as Google scripting and using Google hacking with other search engines and APIs. Noted author Johnny Long, founder of Hackers for Charity, gives you all the tools you need to conduct the ultimate open source reconnaissance and penetration testing.

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Theoretical and Experimental Methods for Defending Against DDoS Attacks

I.S. Amiri B. Sc (Applied Physics), M. Sc (Optics and Optoelectronics) PhD (Nanophotonics), Postdoctoral Researcher (Experiment Physics and Photonics)

M.R.K. Soltanian B.Eng (Electronics), M. Sc (Telecommunication Engineering), Research Fellow (Photonics)



Provides a pragmatic solution to mitigate the most famous DDoS attacks

KEY FEATURES

- A comprehensive study on the basics of network security
- Provides a wide revision on client puzzle theory
- An experimental model to mitigate distributed denial of service (DDoS) attacks

DESCRIPTION

Denial of Service (DoS) attacks are a form of attack that seeks to make a network resource unavailable due to overloading the resource or machine with an overwhelming number of packets, thereby crashing or severely slowing the performance of the resource. Distributed Denial of Service (DDoS) is a large scale DoS attack which is distributed in the Internet. Every computer which has access to the Internet can behave as an attacker. Typically bandwidth depletion can be categorized as either a flood or an amplification attack. Flood attacks can be done by generating ICMP packets or UDP packets in which it can utilize stationary or random variable ports. Smurf and Fraggle attacks are used for amplification attacks. DDoS Smurf attacks are an example of an amplification attack where the attacker sends packets to a network amplifier with the return address spoofed to the victim's IP address. This book presents new research and methodologies along with a proposed algorithm for prevention of DoS attacks that has been written based on cryptographic concepts such as birthday attacks to estimate the rate of attacks generated and passed along the routers. Consequently, attackers would be identified and prohibited from sending spam traffic to the server which can cause DDoS attacks. Due to the prevalence of DoS attacks, there has been a lot of research conducted on how to detect them and prevent them. The authors of this short format title provide their research results on providing an effective solution to DoS attacks, including introduction of the new algorithm that can be implemented in order to deny DoS attacks.

ISBN: 978-0-12-805391-1

PUB DATE: November 2015

FORMAT: Paperback

PAGES: c. 62

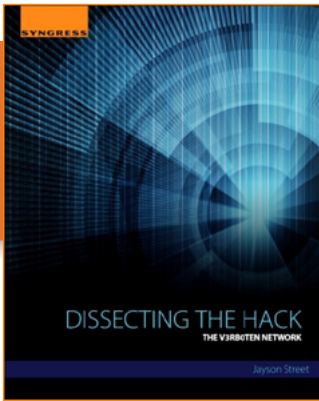
AUDIENCE

Information security researchers, professionals and consultants, hackers and penetration testers, as well as high-level undergrad and postgraduate students.

COMPUTING

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ISBN: 978-0-12-804278-6

PUB DATE: July 2015

FORMAT: Paperback

PAGES: c. 212

AUDIENCE

Information security professionals, penetration testers, red teamers, blue teamers, hackers, intelligence analysts, security consultants, IT managers and all those interested in an insider look into the real world of information security.

Dissecting the Hack

The V3rb0t3n Network

Jayson E Street Principle Partner, Stratagem One Solutions, Oklahoma City, OK, USA



Every attack is real. Every defense is real. What will you do with the knowledge?

KEY FEATURES

- All new volume of Dissecting the Hack by Jayson Street, with technical edit by Brian Martin
- Uses actual hacking and security tools in its story – helps to familiarize readers with the many devices and their code
- Features cool new hacks and social engineering techniques, in real life context for ease of learning

DESCRIPTION

Dissecting the Hack: The V3rb0t3n Network ventures further into cutting-edge techniques and methods than its predecessor, *Dissecting the Hack: The F0rb1dd3n Network*. It forgoes the basics and delves straight into the action, as our heroes are chased around the world in a global race against the clock. The danger they face will forever reshape their lives and the price they pay for their actions will not only affect themselves, but could possibly shake the foundations of an entire nation.

The book is divided into two parts. The first part, entitled "The V3rb0t3n Network," continues the fictional story of Bob and Leon, two hackers caught up in an adventure in which they learn the deadly consequence of digital actions. The second part, "Security Threats Are Real" (STAR), focuses on these real-world lessons and advanced techniques, as used by characters in the story. This gives the reader not only textbook knowledge, but real-world context around how cyber-attacks may manifest.

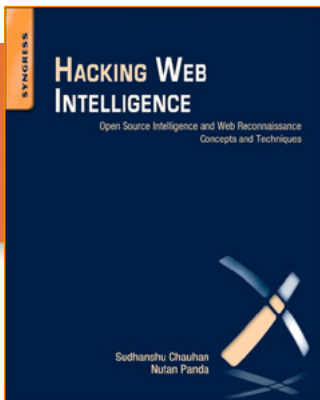
"The V3rb0t3n Network" can be read as a stand-alone story or as an illustration of the issues described in STAR. Scattered throughout "The V3rb0t3n Network" are "Easter eggs"—references, hints, phrases, and more that will lead readers to insights into hacker culture. Drawing on "The V3rb0t3n Network," STAR explains the various aspects of reconnaissance; the scanning phase of an attack; the attacker's search for network weaknesses and vulnerabilities to exploit; the various angles of attack used by the characters in the story; basic methods of erasing information and obscuring an attacker's presence on a computer system; and the underlying hacking culture.

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ISBN: 978-0-12-801867-5

PUB DATE: April 2015

FORMAT: Paperback

PAGES: c. 282

AUDIENCE

Information security professionals, practitioners, analysts, consultants, IT managers, Web developers, as well as hackers and penetration testers.

Hacking Web Intelligence

Open Source Intelligence and Web Reconnaissance Concepts and Techniques

Sudhanshu Chauhan Security Analyst for iVIZ Techno Solutions, India

Nutan Kumar Panda Security Analyst for for iVIZ Techno Solutions, India



Learn the key methods and techniques for applying open source intelligence and web reconnaissance in your security assessments and penetration tests

KEY FEATURES

- Provides a holistic approach to OSINT and Web recon, showing you how to fit all the data together into actionable intelligence
- Focuses on hands-on tools such as TOR, i2p, Maltego, Shodan, Creepy, SearchDiggity, Recon-ng, FOCA, EXIF, Metagoofil, MAT, and many more
- Covers key technical topics such as metadata searching, advanced browsers and power searching, online anonymity, Darkweb / Deepweb, Social Network Analysis (SNA), and how to manage, analyze, and visualize the data you gather
- Includes hands-on technical examples and case studies, as well as a Python chapter that shows you how to create your own information-gathering tools and modify existing APIs

DESCRIPTION

Open source intelligence (OSINT) and web reconnaissance are rich topics for infosec professionals looking for the best ways to sift through the abundance of information widely available online. In many cases, the first stage of any security assessment—that is, reconnaissance—is not given enough attention by security professionals, hackers, and penetration testers. Often, the information openly present is as critical as the confidential data.

Hacking Web Intelligence shows you how to dig into the Web and uncover the information many don't even know exists. The book takes a holistic approach that is not only about using tools to find information online but also how to link all the information and transform it into presentable and actionable intelligence. You will also learn how to secure your information online to prevent it being discovered by these reconnaissance methods.

Hacking Web Intelligence is an in-depth technical reference covering the methods and techniques you need to unearth open source information from the Internet and utilize it for the purpose of targeted attack during a security assessment. This book will introduce you to many new and leading-edge reconnaissance, information gathering, and open source intelligence methods and techniques, including metadata extraction tools, advanced search engines, advanced browsers, power searching methods, online anonymity tools such as TOR and i2p, OSINT tools such as Maltego, Shodan, Creepy, SearchDiggity, Recon-ng, Social Network Analysis (SNA), Darkweb/Deepweb, data visualization, and much more.

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Advances in
COMPUTERS
Volume **101**



Edited by
ATIF MEMON

Series Editors
Ali Hussen and Atif Memon



Advances in Computers, Vol 101

Advances in Computers

Edited by: *Atif Memon* University of Maryland, College Park, MD, USA



Offers detailed coverage of innovations in computer hardware, software, theory, design, and applications

KEY FEATURES

- Presents detailed coverage of recent innovations in computer hardware, software, theory, design, and applications
- Includes in-depth surveys and tutorials on new computer technology pertaining to computing: combinatorial testing, constraint-based testing, and black-box testing
- Written by well-known authors and researchers in the field
- Includes extensive bibliographies with most chapters
- Presents volumes devoted to single themes or subfields of computer science

DESCRIPTION

Advances in Computers carries on a tradition of excellence, presenting detailed coverage of innovations in computer hardware, software, theory, design, and applications.

The book provides contributors with a medium in which they can explore their subjects in greater depth and breadth than journal articles typically allow.

The articles included in this book will become standard references, with lasting value in this rapidly expanding field.

ISBN: 978-0-12-805158-0

PUB DATE: March 2016

FORMAT: Hardback

PAGES: c. 272

AUDIENCE

Researchers in high performance computer areas, hardware manufacturers, educational programs in physics and scientific computation and in computer science.

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Advances in
COMPUTERS

Energy Efficiency in Data Centers and Clouds

Volume **100**



Edited by
ALI HURSON AND HAMID SARBASI-AZAD

Series Editors
Ali Hurson and Alif Hameed



Advances in Computers, Vol 100

Energy Efficiency in Data Centers and Clouds

Edited by: **Ali Hurson** Missouri University of Science and Technology, Rolla, MO, USA

Hamid Sarbazi Azad Sharif University of Technology, Tehran, Iran



Offers detailed coverage of innovations in computer hardware, software, theory, design, and applications

KEY FEATURES

- Presents detailed coverage of recent innovations in computer hardware, software, theory, design, and applications
- Includes in-depth surveys and tutorials on new computer technology pertaining to computing: combinatorial testing, constraint-based testing, and black-box testing
- Written by well-known authors and researchers in the field
- Includes extensive bibliographies with most chapters
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The articles included in this book will become standard references, with lasting value in this rapidly expanding field.

ISBN: 978-0-12-804778-1

PUB DATE: February 2016

FORMAT: Hardback

PAGES: c. 288

AUDIENCE

Researchers in high performance computer areas, hardware manufacturers, educational programs in physics and scientific computation and in computer science.

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Handbook of Media Economics, 2 vol set

Edited by: *Simon P. Anderson* University of Virginia

Joel Waldfoegel University of Minnesota

David Stromberg Stockholm University



Surveys and analyzes recent research regarding the theories, evidence, and regulatory policy at work in media industries and their economic impacts

A Volume in the Handbooks in Economics Series.

ISBN: 978-0-444-63691-1

PUB DATE: December 2015

FORMAT: Hardback

AUDIENCE

Primary: graduate students and professors worldwide studying media economics, as well as those working in industrial organization and microeconomics

Secondary: non-academic economists worldwide working in regulation and competition policy

"This Handbook provides a very useful overview of the economic literature on the media, a literature that has grown tremendously in the last few decades. Now we will have one single place to go when in need of accessing state-of-the-art knowledge in this research area. It is particularly welcome that the editors have collected surveys both across the various media industries and across the main market-structure and political-economy issues."--**Tore Nilssen, University of Oslo**

KEY FEATURES

- Helps academic and non-academic economists understand recent rapid changes in theoretical and empirical advances, in structural empirical methods, and in the media industry's connection with the democratic process
- Presents the only detailed summary of media economics that emphasizes political economy, merger policy, and competition policy
- Pays special attention to the economic influences of the Internet, including developments in social media, user-generated content, and advertising, as well as the Internet's effects on newspapers, radio, and television

DESCRIPTION

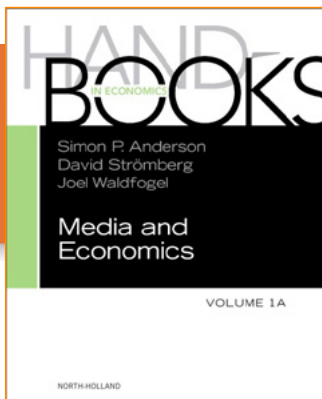
Handbook of Media Economics provides valuable information on a unique field that has its own theories, evidence, and policies. Understanding the media is important for society, and while new technologies are altering the media, they are also affecting our understanding of their economics. Chapters span the large scope of media economics, simultaneously offering in-depth analysis of particular topics, including the economics of why media are important, how media work (including financing sources, institutional settings, and regulation), what determines media content (including media bias), and the effects of new technologies. The volumes provide a powerful introduction for those interested in starting research in media economics.

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Handbook of Media Economics, vol 1A

Edited by: *Simon P. Anderson* University of Virginia
Joel Waldfoegel University of Minnesota
David Stromberg Stockholm University



This book surveys and analyzes recent research regarding the theories, evidence, and regulatory policy at work in media industries and their economic impacts

A Volume in the Handbooks in Economics Series.

"This Handbook provides a very useful overview of the economic literature on the media, a literature that has grown tremendously in the last few decades. Now we will have one single place to go when in need of accessing state-of-the-art knowledge in this research area. It is particularly welcome that the editors have collected surveys both across the various media industries and across the main market-structure and political-economy issues."--*Tore Nilssen, University of Oslo*
"At last the long-awaited handbook on the economics of media! Despite 15 years of high quality research, the field has suffered from the lack of systematic and comprehensive presentation. This handbook not only illustrates the basic economic forces shaping traditional and new media markets but also analyses the relationship between media markets and politics. I plan to use it in my graduate and doctoral courses. It will also help academics considering new research in the field."--*Lapo Filistrucchi, University of Florence and Tilburg University*

ISBN: 978-0-444-62721-6

PUB DATE: December 2015

FORMAT: Hardback

PAGES: c. 540

AUDIENCE

Primary: graduate students and professors worldwide studying media economics, as well as those working in industrial organization and microeconomics

Secondary: non-academic economists worldwide working in regulation and competition policy

KEY FEATURES

- Helps academic and non-academic economists understand recent rapid changes in theoretical and empirical advances, in structural empirical methods, and in the media industry's connection with the democratic process
- Presents the only detailed summary of media economics that emphasizes political economy, merger policy, and competition policy
- Pays special attention to the economic influences of the Internet, including developments in social media, user-generated content, and advertising, as well as the Internet's effects on newspapers, radio, and television

DESCRIPTION

Handbook of Media Economics provides valuable information on a unique field that has its own theories, evidence, and policies. Understanding the media is important for society, and while new technologies are altering the media, they are also affecting our understanding of their economics.

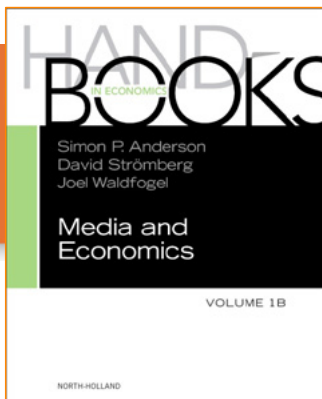
The book spans the large scope of media economics, simultaneously offering in-depth analysis of particular topics, including the economics of why media are important, how media work (including financing sources, institutional settings, and regulation), what determines media content (including media bias), and the effects of new technologies. The book provides a powerful introduction for those interested in starting research in media economics.

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Handbook of Media Economics, vol 1B

Edited by: *Simon P. Anderson* University of Virginia

Joel Waldfoegel University of Minnesota

David Stromberg Stockholm University



This book surveys and analyzes recent research regarding the theories, evidence, and regulatory policy at work in media industries and their economic impacts

A Volume in the Handbooks in Economics Series.

"This Handbook provides a very useful overview of the economic literature on the media, a literature that has grown tremendously in the last few decades. Now we will have one single place to go when in need of accessing state-of-the-art knowledge in this research area. It is particularly welcome that the editors have collected surveys both across the various media industries and across the main market-structure and political-economy issues." --*Tore Nilssen, University of Oslo*

"At last the long-awaited handbook on the economics of media! Despite 15 years of high quality research, the field has suffered from the lack of systematic and comprehensive presentation. This handbook not only illustrates the basic economic forces shaping traditional and new media markets but also analyses the relationship between media markets and politics. I plan to use it in my graduate and doctoral courses. It will also help academics considering new research in the field." --*Lapo Filistrucchi, University of Florence*

KEY FEATURES

- Helps academic and non-academic economists understand recent rapid changes in theoretical and empirical advances, in structural empirical methods, and in the media industry's connection with the democratic process
- Presents the only detailed summary of media economics that emphasizes political economy, merger policy, and competition policy
- Pays special attention to the economic influences of the Internet, including developments in social media, user-generated content, and advertising, as well as the Internet's effects on newspapers, radio, and television

DESCRIPTION

Handbook of Media Economics provides valuable information on a unique field that has its own theories, evidence, and policies. Understanding the media is important for society, and while new technologies are altering the media, they are also affecting our understanding of their economics.

The book spans the large scope of media economics, simultaneously offering in-depth analysis of particular topics, including the economics of why media are important, how media work (including financing sources, institutional settings, and regulation), what determines media content (including media bias), and the effects of new technologies. The book provides a powerful introduction for those interested in starting research in media economics.

ISBN: 978-0-444-63685-0

PUB DATE: December 2015

FORMAT: Hardback

PAGES: c. 234

AUDIENCE

Primary: graduate students and professors worldwide studying media economics, as well as those working in industrial organization and microeconomics

Secondary: non-academic economists worldwide working in regulation and competition policy

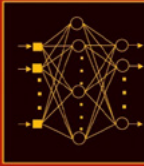
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Advances in
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Volume **99**



Edited by
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Series Editors:
Ali Herson and Atif Memon



Advances in Computers, Vol 99

Advances in Computers

Edited by: *Atif Memon* University of Maryland, College Park, MD, USA



Offers detailed coverage of innovations in computer hardware, software, theory, design, and applications

KEY FEATURES

- Presents detailed coverage of recent innovations in computer hardware, software, theory, design, and applications
- Includes in-depth surveys and tutorials on new computer technology pertaining to computing: combinatorial testing, constraint-based testing, and black-box testing
- Written by well-known authors and researchers in the field
- Includes extensive bibliographies with most chapters
- Presents volumes devoted to single themes or subfields of computer science

DESCRIPTION

Advances in Computers carries on a tradition of excellence, presenting detailed coverage of innovations in computer hardware, software, theory, design, and applications.

The book provides contributors with a medium in which they can explore their subjects in greater depth and breadth than journal articles typically allow.

The articles included in this book will become standard references, with lasting value in this rapidly expanding field.

ISBN: 978-0-12-802131-6

PUB DATE: August 2015

FORMAT: Hardback

PAGES: c. 252

AUDIENCE

Researchers in high performance computer areas, hardware manufacturers, educational programs in physics and scientific computation and in computer science.

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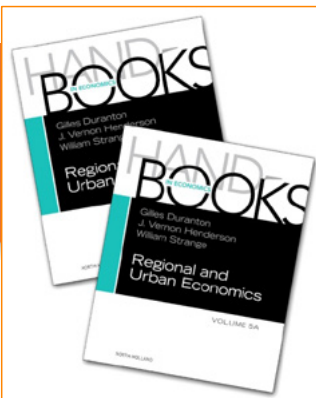


Handbook of Regional and Urban Economics SET

Edited by: *Gilles Duranton* Chair, Real Estate Department, Wharton School, University of Pennsylvania, Philadelphia, PA, USA

Vernon Henderson Department of Economics, Brown University, Providence, RI, USA

William Strange Rotman School of Management, University of Toronto, Toronto, ON, Canada



Summarizes and analyzes recent advances in methodological and applied research for graduate students and professionals

A Volume in the Handbook of Regional & Urban Economics Series.

ISBN: 978-0-444-59533-1

PUB DATE: late June 2015

FORMAT: Hardback

PAGES: c. 2064

AUDIENCE

Graduate students and professors worldwide working in all subdisciplines of economics and finance. Secondary audience includes researchers working in macroeconomics and related areas, such as housing, growth, development economics, economic behavior, transportation, and modeling.

KEY FEATURES

- Emphasizes advances in applied econometrics and the blurring of "within" and "between" cities
- Promotes the integration of theory and empirics in most chapters
- Presents new research on housing, especially in macro and international finance contexts

DESCRIPTION

Developments in methodologies, agglomeration, and a range of applied issues have characterized recent advances in regional and urban studies. Volume 5 concentrates on these developments while treating traditional subjects such as housing, the costs and benefits of cities, and policy issues beyond regional inequalities. Contributors make a habit of combining theory and empirics in each chapter, guiding research amid a trend in applied economics towards structural and quasi-experimental approaches. Clearly distinguished from the New Economic Geography covered by Volume 4, these articles feature an international approach that positions recent advances within the discipline of economics and society at large.

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Advances in
COMPUTERS
Volume 98



Edited by
ALI HURSON

Series Editors
Ali Hurson and Alistair Munro



Advances in Computers, Vol 98

Advances in Computers

Edited by: **Ali Hurson** Missouri University of Science and Technology, Rolla, MO, USA



Offers detailed coverage of innovations in computer hardware, software, theory, design, and applications

KEY FEATURES

- In-depth surveys and tutorials on new computer technology
- Well-known authors and researchers in the field
- Extensive bibliographies with most chapters
- Many of the volumes are devoted to single themes or subfields of computer science

DESCRIPTION

Since its first volume in 1960, *Advances in Computers* has presented detailed coverage of innovations in computer hardware, software, theory, design, and applications. It has also provided contributors with a medium in which they can explore their subjects in greater depth and breadth than journal articles usually allow. As a result, many articles have become standard references that continue to be of significant, lasting value in this rapidly expanding field.

ISBN: 978-0-12-802132-3

PUB DATE: June 2015

FORMAT: Hardback

PAGES: c. 234

AUDIENCE

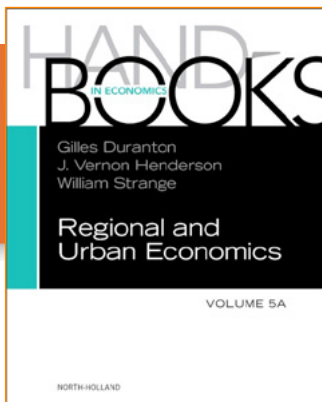
Researchers in high performance computer areas, hardware manufacturers, educational programs in physics and scientific computation and in computer science.

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Handbook of Regional and Urban Economics, vol. 5A

Edited by: **Gilles Duranton** Chair, Real Estate Department, Wharton School, University of Pennsylvania, Philadelphia, PA, USA

Vernon Henderson Department of Economics, Brown University, Providence, RI, USA

William Strange Rotman School of Management, University of Toronto, Toronto, ON, Canada



Summarizes and analyzes recent advances in methodological and applied research for graduate students and professionals

A Volume in the Handbook of Regional & Urban Economics Series.

ISBN: 978-0-444-59517-1

PUB DATE: May 2015

FORMAT: Hardback

PAGES: c. 702

AUDIENCE

Graduate students and professors worldwide working in all subdisciplines of economics and finance. Secondary audience includes researchers working in macroeconomics and related areas, such as housing, growth, development economics, economic behavior, transportation, and modeling.

"This invaluable collection brings together excellent reviews of the state-of-the-art in contemporary Regional and Urban Economics, written by the world's most renowned experts, thus forming a most welcome addition to what is already an essential collection of reference reviews in the field. It will prove to be of great value as much to those who have been working in the field since the appearance Handbook's first volume in 1987 or before, as it will be to those who are new in the field." --*Erik Verhoef, VU University, The Netherlands*

"The chapters in this impressive collection, written by the top scholars in the field, offer a rigorous view of the frontiers of urban and regional economics. Both established and emerging researchers will benefit from the volume's timely focus on empirical methods, heterogeneity, networks, and housing finance and market microstructure. This volume will be the standard reference in the field for years to come." --*Robert Helsley, University of British Columbia*

"The fifth volume of Elsevier's *Handbook of Regional and Urban Economics* is a worthy successor to its fine predecessors. The chapters are on subjects at the forefront of urban and housing research, and the authors are among the best in their fields. At a time when urban and housing issues are more important to the study of economics than ever before, the Handbook will serve as a stimulating gateway to its most interesting and important topics. This is a volume that everybody with an interest in this subject will want to read." --*Edward Coulson, University of Nevada*

KEY FEATURES

- Editors are recognized as leaders and can attract an international list of contributors
- Regional and urban studies interest economists in many subdisciplines, such as labor, development, and public economics
- Table of contents combines theoretical and applied subjects, ensuring broad appeal to readers

DESCRIPTION

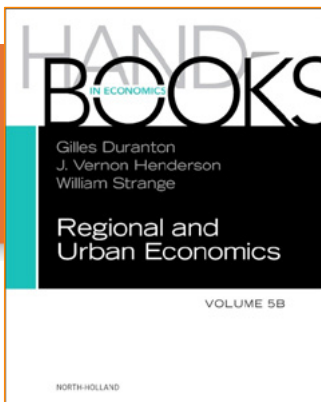
Developments in methodologies, agglomeration, and a range of applied issues have characterized recent advances in regional and urban studies. Volume 5 concentrates on these developments while treating traditional subjects such as housing, the costs and benefits of cities, and policy issues beyond regional inequalities. Contributors make a habit of combining theory and empirics in each chapter, guiding research amid a trend in applied economics towards structural and quasi-experimental approaches. Clearly distinguished from the New Economic Geography covered by Volume 4, these articles feature an international approach that positions recent advances within the discipline of economics and society at large.

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Handbook of Regional and Urban Economics, vol. 5B

Edited by: **Gilles Duranton** Chair, Real Estate Department, Wharton School, University of Pennsylvania, Philadelphia, PA, USA

Vernon Henderson Department of Economics, Brown University, Providence, RI, USA

William Strange Rotman School of Management, University of Toronto, Toronto, ON, Canada



Summarizes and analyzes recent advances in methodological and applied research for graduate students and professionals

A Volume in the Handbook of Regional & Urban Economics Series.

"This invaluable collection brings together excellent reviews of the state-of-the-art in contemporary Regional and Urban Economics, written by the world's most renowned experts, thus forming a most welcome addition to what is already an essential collection of reference reviews in the field. It will prove to be of great value as much to those who have been working in the field since the appearance Handbook's first volume in 1987 or before, as it will be to those who are new in the field." --*Erik Verhoef, VU University, The Netherlands*

"The chapters in this impressive collection, written by the top scholars in the field, offer a rigorous view of the frontiers of urban and regional economics. Both established and emerging researchers will benefit from the volume's timely focus on empirical methods, heterogeneity, networks, and housing finance and market microstructure. This volume will be the standard reference in the field for years to come." --*Robert Helsley, University of British Columbia*

"The fifth volume of Elsevier's *Handbook of Regional and Urban Economics* is a worthy successor to its fine predecessors. The chapters are on subjects at the forefront of urban and housing research, and the authors are among the best in their fields. At a time when urban and housing issues are more important to the study of economics than ever before, the Handbook will serve as a stimulating gateway to its most interesting and important topics. This is a volume that everybody with an interest in this subject will want to read." --*Edward Coulson, University of Nevada*

KEY FEATURES

- Editors are recognized as leaders and can attract an international list of contributors
- Regional and urban studies interest economists in many subdisciplines, such as labor, development, and public economics
- Table of contents combines theoretical and applied subjects, ensuring broad appeal to readers

DESCRIPTION

Developments in methodologies, agglomeration, and a range of applied issues have characterized recent advances in regional and urban studies. Volume 5 concentrates on these developments while treating traditional subjects such as housing, the costs and benefits of cities, and policy issues beyond regional inequalities. Contributors make a habit of combining theory and empirics in each chapter, guiding research amid a trend in applied economics towards structural and quasi-experimental approaches. Clearly distinguished from the New Economic Geography covered by Volume 4, these articles feature an international approach that positions recent advances within the discipline of economics and society at large.

ISBN: 978-0-444-59531-7

PUB DATE: May 2015

FORMAT: Hardback

PAGES: c. 958

AUDIENCE

Graduate students and professors worldwide working in all subdisciplines of economics and finance. Secondary audience includes researchers working in macroeconomics and related areas, such as housing, growth, development economics, economic behavior, transportation, and modeling.

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Advances in
COMPUTERS
Volume 97



Edited by
ATIF M. MEMON

Series Editors
Ali Herson and Atif M. Memon



ISBN: 978-0-12-802133-0

PUB DATE: March 2015

FORMAT: Hardback

PAGES: c. 266

AUDIENCE

Researchers in high performance computer areas, hardware manufacturers, educational programs in physics and scientific computation and in computer science.

Advances in Computers, Vol 97

Advances in Computers

Edited by: *Atif Memon* University of Maryland, College Park, MD, USA



Offers detailed coverage of innovations in computer hardware, software, theory, design, and applications

"Mandatory for academic libraries supporting computer science departments."--CHOICE

KEY FEATURES

- In-depth surveys and tutorials on new computer technology
- Well-known authors and researchers in the field
- Extensive bibliographies with most chapters
- Many of the volumes are devoted to single themes or subfields of computer science

DESCRIPTION

Since its first volume in 1960, *Advances in Computers* has presented detailed coverage of innovations in computer hardware, software, theory, design, and applications. It has also provided contributors with a medium in which they can explore their subjects in greater depth and breadth than journal articles usually allow. As a result, many articles have become standard references that continue to be of significant, lasting value in this rapidly expanding field.

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Advances in
COMPUTERS

Volume **96**
Dataflow Processing



Edited by

ALI HURSON and **VELJKO MILUTINOVIC**

Series Editors
Ali Hurson and Alii Meman



ISBN: 978-0-12-802134-7

PUB DATE: February 2015

FORMAT: Hardback

PAGES: c. 258

AUDIENCE

Researchers in high performance computer areas; hardware manufacturers; physics and scientific computation and computer science educational programs

Advances in Computers, Vol 96

Dataflow Processing

Edited by: **Ali Hurson** Missouri University of Science and Technology, Rolla, MO, USA

Veljko Milutinovic University of Belgrade, Serbia



Advances in Computers offers detailed coverage of innovations in computer hardware, software, theory, design, and applications

"Mandatory for academic libraries supporting computer science departments."--CHOICE

KEY FEATURES

- In-depth surveys and tutorials on new computer technology
- Well-known authors and researchers in the field
- Extensive bibliographies with most chapters
- Many of the volumes are devoted to single themes or subfields of computer science

DESCRIPTION

Since its first volume in 1960, *Advances in Computers* has presented detailed coverage of innovations in computer hardware, software, theory, design, and applications. It has also provided contributors with a medium in which they can explore their subjects in greater depth and breadth than journal articles usually allow. As a result, many articles have become standard references that continue to be of significant, lasting value in this rapidly expanding field.

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handbook of statistics 34

Data Gathering, Analysis and Protection of Privacy Through Randomized Response Techniques: Qualitative and Quantitative Human Traits

Edited by
A. Chaudhuri
T. C. Christofides
C.R. Rao



ISBN: 978-0-444-63570-9

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 500

AUDIENCE

Social scientists, corporate sector investigators on human issues of importance, and survey scientists in particular, including students, teachers and researchers interested in social problems in areas of sensitive human traits

Data Gathering, Analysis and Protection of Privacy through Randomized Response Techniques: Qualitative and Quantitative Human Traits

Edited by: **Arijit Chaudhuri** Indian Statistical Institute, Kolkata, India
Tasos C. Christofides University of Cyprus, Nicosia, Cyprus
C.R. Rao The Pennsylvania State University, University Park, PA, USA



This volume of the *Handbook of Statistics* brings together all relevant aspects of randomized response and indirect questioning, expertly tackling how to gather and analyze data relating to stigmatizing human traits

A Volume in the Handbook of Statistics Series.

KEY FEATURES

- Brings together all relevant aspects of randomized response and indirect questioning
- Tackles how to gather and analyze data relating to stigmatizing human traits
- Gives an encyclopedic coverage of the topic
- Covers recent developments and extrapolates to future trends

DESCRIPTION

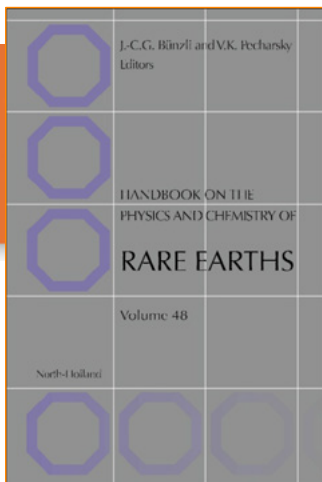
Data Gathering, Analysis and Protection of Privacy through Randomized Response Techniques: Qualitative and Quantitative Human Traits tackles how to gather and analyze data relating to stigmatizing human traits. S.L. Warner invented RRT and published it in JASA, 1965. In the 50 years since, the subject has grown tremendously, with continued growth. This book comprehensively consolidates the literature to commemorate the inception of RR.

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GENERAL

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ISBN: 978-0-444-63483-2

PUB DATE: November 2015

FORMAT: Hardback

PAGES: c. 380

AUDIENCE

Researchers working on rare earth materials, scientists and engineers in the rare earth industry, university libraries, research institutes

Handbook on the Physics and Chemistry of Rare Earths

Edited by: *Jean-Claude G. Bünzli* Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland

Vitalij K. Pecharsky Iowa State University, Ames Laboratory, Ames, IA, USA



This book provides a definitive source of information on all aspects of rare earth science and related actinide elements, providing readers with a broad, up-to-date analysis as presented by highly experienced experts in the field.

A Volume in the Handbook on the Physics and Chemistry of Rare Earths Series.

KEY FEATURES

- Individual chapters are comprehensive, broad, critical reviews on the topic of rare earths
- Contributions are written by highly experienced, invited experts
- Up-to-date overviews of developments in the field
- Includes update on many of the closely related actinide elements

DESCRIPTION

Handbook on the Physics and Chemistry of Rare Earths is a continuous series of books covering all aspects of rare earth science, including chemistry, life sciences, materials science, and physics.

The main emphasis of the handbook is on rare earth elements [Sc, Y and the lanthanides (La through Lu)], but whenever relevant, information is also included on the closely related actinide elements.

The individual chapters are comprehensive, broad, up-to-date, critical reviews written by highly experienced invited experts. The series, which was started in 1978 by Professor Karl A. Gschneidner Jr., combines and integrates both the fundamentals and applications of these elements, now publishing two volumes a year.

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Handbook of Magnetic Materials

Edited by
K.H.J. Buschow

VOLUME
24



ISBN: 978-0-444-63634-8

PUB DATE: November 2015

FORMAT: Hardback

PAGES: c. 436

AUDIENCE

Physicists, chemists and materials scientists, and all scientists active in magnetism research

Handbook of Magnetic Materials

Edited by: *K.H.J. Buschow* Van Der Waals-Zeeman Institute, University of Amsterdam, The Netherlands



Reviews in graphical and tabular form novel trends and achievements in magnetism, with much emphasis on experimental results within the framework of physics, chemistry, and materials science

A Volume in the Handbook of Magnetic Materials Series.

KEY FEATURES

- Comprises topical review articles written by leading authorities
- Includes a variety of self-contained introductions to a given area in the field of magnetism without requiring recourse to the published literature
- Introduces given topics in the field of magnetism
- Describes novel trends and achievements in magnetism

DESCRIPTION

Handbook of Magnetic Materials covers the expansion of magnetism over the last few decades and its applications in research, notably the magnetism of several classes of novel materials that share with truly ferromagnetic materials the presence of magnetic moments.

Volume 24 of the *Handbook of Magnetic Materials*, much like the preceding volumes, has a dual purpose. With contributions from leading authorities in the field, it includes a variety of self-contained introductions to a given area in the field of magnetism without requiring recourse to the published literature.

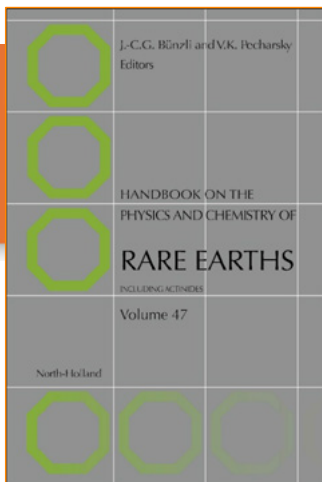
The book is an ideal reference for scientists active in magnetism research, providing readers with novel trends and achievements in magnetism. Each article contains an extensive description given in graphical, as well as, tabular form, with much emphasis placed on the discussion of the experimental material within the framework of physics, chemistry, and material science.

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ISBN: 978-0-444-63481-8

PUB DATE: October 2015

FORMAT: Hardback

PAGES: c. 352

AUDIENCE

Researchers working on rare earth materials, scientists and engineers in the rare earth industry, university libraries, research institutes

Handbook on the Physics and Chemistry of Rare Earths

Edited by: *Jean-Claude G. Bünzli* Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland

Vitalij K. Pecharsky Iowa State University, Ames Laboratory, Ames, IA, USA



A definitive source of information on all aspects of rare earth science and related actinide elements, featuring comprehensive and up-to-date reviews from experts in the field.

A Volume in the Handbook on the Physics and Chemistry of Rare Earths Series.

KEY FEATURES

- Covers all aspects of rare earth science, including chemistry, life sciences, materials science, and physics.
- Includes contributions from highly experienced, invited experts
- Provides comprehensive, up-to-date critical reviews of developments in the field
- Combines and integrates both the fundamentals and applications of rare earth elements

DESCRIPTION

Handbook on the Physics and Chemistry of Rare Earths is a continuing series of books covering all aspects of rare earth science, including chemistry, life sciences, materials science, and physics. The handbook emphasizes rare earth elements [Sc, Y and the lanthanides (La through Lu)] but, when relevant, information also is included about the closely related actinide elements.

The individual chapters are comprehensive, broad, up-to-date critical reviews written by highly experienced invited experts. The series, which was started in 1978 by Professor Karl A. Gschneidner, Jr., combines and integrates both the fundamentals and applications of these elements and now publishes two volumes a year.

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handbook of statistics 33

Big Data Analytics

Edited by
V. Govindaraju
V.V. Raghavan
C.R. Rao



ISBN: 978-0-444-63492-4

PUB DATE: July 2015

FORMAT: Hardback

PAGES: c. 378

AUDIENCE

Computer scientists, statisticians,
data scientists, and Artificial
Intelligence researchers

Big Data Analytics

Edited by: **Venu Govindaraju** The State University of New York, Buffalo, NY, USA

Vijay Raghavan University of Louisiana, Lafayette, LA, USA

C.R. Rao State University of New York, Buffalo, NY, USA and C.R.Rao Advanced Institute of Mathematics, Statistics and Computer Science, Hyderabad, India



Tracking the evolution of Big Data, focusing on timely topics such as data mining and analytics

A Volume in the Handbook of Statistics Series.

"...a handbook meant for researchers and practitioners that are familiar with the basic concepts and techniques of data mining and statistics...a consistent and smooth flowing writing style."--

KDnuggets, *Big Data Analytics*

"A book that balances the numeric, text, and categorical data mining with a true big data perspective."--**Kdnuggets, *Big Data Analytics***

"Professors Venu Givindaraju, Vijay Raghavan & C. R. Rao, have done a brilliant job by tackling these complex issues in their edited book: Big Data Analytics (Handbook of Statistics, Volume 33), under Elsevier."--**The Indian Economist, *Big Data Analytics***

KEY FEATURES

- Review of big data research challenges from diverse areas of scientific endeavor
- Rich perspective on a range of data science issues from leading researchers
- Insight into the mathematical and statistical theory underlying the computational methods used to address big data analytics problems in a variety of domains

DESCRIPTION

While the term Big Data is open to varying interpretation, it is quite clear that the Volume, Velocity, and Variety (3Vs) of data have impacted every aspect of computational science and its applications. The volume of data is increasing at a phenomenal rate and a majority of it is unstructured. With big data, the volume is so large that processing it using traditional database and software techniques is difficult, if not impossible. The drivers are the ubiquitous sensors, devices, social networks and the all-pervasive web. Scientists are increasingly looking to derive insights from the massive quantity of data to create new knowledge. In common usage, Big Data has come to refer simply to the use of predictive analytics or other certain advanced methods to extract value from data, without any required magnitude thereon. Challenges include analysis, capture, curation, search, sharing, storage, transfer, visualization, and information privacy. While there are challenges, there are huge opportunities emerging in the fields of Machine Learning, Data Mining, Statistics, Human-Computer Interfaces and Distributed Systems to address ways to analyze and reason with this data. The edited volume focuses on the challenges and opportunities posed by "Big Data" in a variety of domains and how statistical techniques and innovative algorithms can help glean insights and accelerate discovery. Big data has the potential to help companies improve operations and make faster, more intelligent decisions.

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Oral Communication Skills for Scientific Presentations

William B. Krantz President's Teaching Scholar and Professor Emeritus, University of Colorado, Boulder, CO, USA; Rieveschl Ohio Eminent Scholar and Professor Emeritus, University of Cincinnati, Cincinnati, OH, USA



A practical, compact guidebook covering the 'nuts and bolts' of effective public speaking

KEY FEATURES

- Discusses best practices in putting together an effective talk
- Focuses on leveraging the speaker's existing skill sets to develop the delivery style that works best for that individual
- Features one-page quick reference guides for giving formal oral and informal poster presentations
- Addresses cross-cultural communication as well as particular concerns for non-native English speakers
- Includes a companion site with tools and video examples of formal and informal presentations for further self-guidance

DESCRIPTION

Oral Communication Skills for Scientific Presentations is intended for inexperienced speakers as well as those aspiring to improve their communication skills in making either formal or informal presentations on a technical subject. A complement to having good organization for a technical presentation is to have an effective delivery style. This book provides a template for organizing a technical talk that will include a discussion of various ways to effectively develop each part of a technical presentation.

A special feature of *Oral Communication Skills for Scientific Presentations* is the focus on making presentations to a cross-cultural audience. This relates to relatively minor considerations such as how to list the names of the co-authors on your presentation as well as to more substantive considerations such as how to handle eye contact and use humor, both of which can differ across the global spectrum of cultures. The cross-cultural focus of this book relates not only to the audience, but also to the speaker. This book also includes helpful tips for non-native English speakers.

ISBN: 978-0-12-805418-5

PUB DATE: April 2016

FORMAT: Paperback

PAGES: c. 160

AUDIENCE

Students and researchers across the sciences interested in improving their oral communication skills; in particular non-native English speakers

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Graduate Research, 4e

A Guide for Students in the Sciences

Robert V. Smith Collaborative Brain Trust University Consulting (CBT UC),
Sacramento, CA, USA

Llewellyn D. Densmore Department of Biological Sciences, Texas Tech
University, Lubbock, TX, USA

Edward F. Lener University Libraries, Virginia Tech, Blacksburg, VA, USA



This newly revised go-to resource is for graduate researchers at all stages of study and covers a range of topics including writing and preparation of research proposals, developing and refining teaching skills, and ethics and compliance areas such as research involving human subjects and animals

KEY FEATURES

- Discusses a broad range of topics including time management, library and literature work, and grant support
- Includes a new chapter on career planning and development with advice on careers in academia, government, and the private sector
- Contains chapters that promote the development of a varied set of communication skills
- Greatly expanded treatment of graduate study and research in international settings

DESCRIPTION

Graduate Research is an all-in-one resource for prospective and matriculated graduate students in the sciences. The newly revised edition includes updates to every chapter. *Graduate Research* covers a range of topics including writing and preparation of research proposals, developing and refining teaching skills, and ethics and compliance areas such as research involving human subjects and animals.

Graduate Research helps readers navigate the multidimensional and interdisciplinary world of scientific research and it is an invaluable resource for graduate researchers as well as those in advising or mentoring roles.

ISBN: 978-0-12-803749-2

PREVIOUS EDITION ISBN:
9780295977058

PUB DATE: February 2016

FORMAT: Paperback

PAGES: c. 288

AUDIENCE

Graduate student, graduate
advisors, and mentors across the
Sciences

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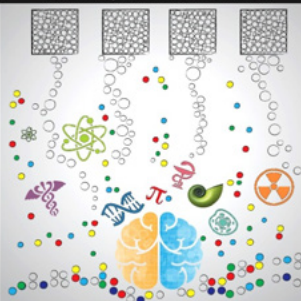
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ORAL EXAMS

PREPARING FOR AND PASSING CANDIDACY,
QUALIFYING, AND GRADUATE DEFENSES



A. LEE FOOTE



ISBN: 978-0-12-802578-9

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 192

AUDIENCE

Graduate students, postdoctoral fellows and faculty in every discipline

Oral Exams

Preparing For and Passing Candidacy, Qualifying, and Graduate Defenses

Lee A Foote Professor and Director, Devonian Botanic Garden, University of Alberta, Edmonton, AB, Canada



This book provides students with a great resource to help them prepare for oral comprehensive and viva voce exams, and is also valuable for faculty as they prepare new questions.

KEY FEATURES

- Describes in detail the general format of oral comprehensive exams, viva voce examinations and defenses, what to expect, and what the requirements are that students need to fulfill to pass.
- Includes appendices with numerous practice questions sourced from a range of disciplines and countries for individual or group learning
- Useful for Early Career academics that are supervising, supporting, and examining PhD students

DESCRIPTION

Oral Exams: Preparing For and Passing Candidacy, Qualifying, and Graduate Defenses provides guidance on how to prepare for oral comprehensive and viva voce exams.

Topics discussed include the supervisory committee, preparing the seminar, arranging content, mental preparation, question framing, and the types of questions to expect.

At its core, the book prepares students to be the best they can be by offering insights into how to interpret and appropriately respond to explicit and implied oral comps questions.

This book benefits faculty by helping them prepare new questions, also providing tips on how to mentor their students in preparation for exams.

The training included can be used to prepare for intensive qualifying or certification exams, job interviews, and presentations.

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COMMUNICATE SCIENCE
PAPERS, PRESENTATIONS,
AND POSTERS EFFECTIVELY



GREGORY S. PATIENCE
DARIA C. BOFFITO
PAUL A. PATIENCE



ISBN: 978-0-12-801500-1

PUB DATE: August 2015

FORMAT: Paperback

PAGES: c. 264

AUDIENCE

Graduate students, research fellows, post-docs, professors, scientists and researchers in STEM fields.

Communicate Science Papers, Presentations, and Posters Effectively

Gregory S. Patience Department of Chemical Engineering, Ecole Polytechnique de Montreal, Canada

Daria C. Boffito Department of Chemical Engineering, Ecole Polytechnique de Montreal, Canada

Paul Patience Ecole Polytechnique de Montreal, Canada



The tools readers need to become better writers, presenters, and communicators

KEY FEATURES

- Covers how to accurately and clearly exhibit results, ideas, and conclusions
- Identifies phrases common in scientific literature that should never be used
- Discusses the theory of presentation, including “before and after” examples highlighting best practices
- Provides concrete, step-by-step examples on how to make camera ready graphs and tables

DESCRIPTION

Communicate Science Papers, Presentations, and Posters Effectively is a guidebook on science writing and communication that professors, students, and professionals in the STEM fields can use in a practical way. This book advocates a clear and concise writing and presenting style, enabling users to concentrate on content.

The text is useful to both native and non-native English speakers, identifying best practices for preparing graphs and tables, and offering practical guidance for writing equations. It includes content on significant figures and error bars, and provides the reader with extensive practice material consisting of both exercises and solutions.

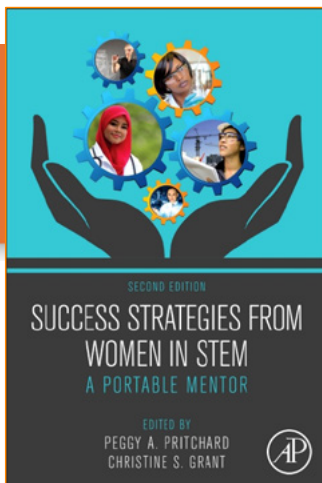
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Success Strategies From Women in STEM, 2e

A Portable Mentor

Edited by: **Peggy A. Pritchard** Associate Librarian, Learning and Curriculum Support Team, University of Guelph, Guelph, ON, Canada
Christine Grant PhD, Full Professor of Chemical and Biomolecular Engineering and Associate Dean of Faculty Advancement, North Carolina State University, College of Engineering, Raleigh, NC, USA



A comprehensive and accessible manual that provides valuable strategies, tools, and success tips for women pursuing and involved in STEM careers

"...we need women to fully participate in this industry...morally and ethically, it's simply the right thing to do. This book will undoubtedly help."--**Network Security, *Success Strategies from Women in STEM, Second Edition***

ISBN: 978-0-12-397181-4

PREVIOUS EDITION ISBN:
978-0-12-088411-7

PUB DATE: June 2015

FORMAT: Paperback

PAGES: c. 460

AUDIENCE

Women pursuing careers or involved in careers in science, technology, engineering and mathematics

KEY FEATURES

- Preserves the style and tone of the first edition by bringing together mentors, trainees and early-career professionals in a series of conversations about important topics related to careers in STEM fields, such as leadership, time stress, negotiation, networking, social media and more
- Identifies strategies that can improve career success along with stories that elucidate, engage, and inspire
- Companion website provides authoritative information from successful women engaged in STEM careers, including annotated links to key organizations, associations, granting agencies, teaching support materials, and more

DESCRIPTION

Success Strategies from Women in Stem: A Portable Mentor, Second Edition, is a comprehensive and accessible manual containing career advice, mentoring support, and professional development strategies for female scientists in the STEM fields.

This updated text contains new and essential chapters on leadership and negotiation, important coverage of career management, networking, social media, communication skills, and more. The work is accompanied by a companion website that contains annotated links, a list of print and electronic resources, self-directed learning objects, frequently asked questions, and more.

With an increased focus on international relevance, this comprehensive text contains shared stories and vignettes that will help women pursuing or involved in STEM careers develop the necessary professional and personal skills to overcome obstacles to advancement.

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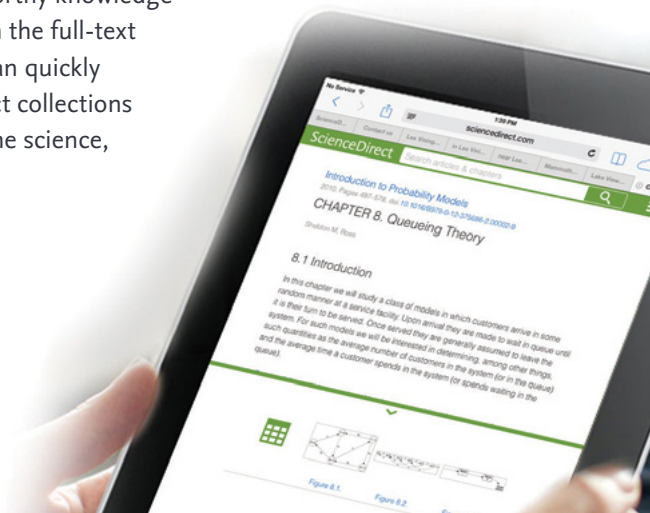
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