

Driven By Data A Practical Guide To Improve Instruction

Get to grips with cyber threat intelligence and data-driven threat hunting while exploring expert tips and techniques

Key Features

- Set up an environment to centralize all data in an Elasticsearch, Logstash, and Kibana (ELK) server that enables threat hunting
- Carry out atomic hunts to start the threat hunting process and understand the environment
- Perform advanced hunting using MITRE ATT&CK Evals emulations and Mordor datasets

Book Description

Threat hunting (TH) provides cybersecurity analysts and enterprises with the opportunity to proactively defend themselves by getting ahead of threats before they can cause major damage to their business. This book is not only an introduction for those who don't know much about the cyber threat intelligence (CTI) and TH world, but also a guide for those with more advanced knowledge of other cybersecurity fields who are looking to implement a TH program from scratch. You will start by exploring what threat intelligence is and how it can be used to detect and prevent cyber threats. As you progress, you'll learn how to collect data, along with understanding it by developing data models. The book will also show you how to set up an environment for TH using open source tools. Later, you will focus on how to plan a hunt with practical examples, before going on to explore the MITRE ATT&CK framework. By the end of this book, you'll have the skills you need to be able to carry out effective hunts in your own environment. What you will learn

- Understand what CTI is, its key concepts, and how it is useful for preventing threats and protecting your organization
- Explore the different stages of the TH process
- Model the data collected and understand how to document the findings
- Simulate threat actor activity in a lab environment
- Use the information collected to detect breaches and validate the results of your queries
- Use documentation and strategies to communicate processes to senior management and the wider business

Who this book is for

If you are looking to start out in the cyber intelligence and threat hunting domains and want to know more about how to implement a threat hunting division with open-source tools, then this cyber threat intelligence book is for you.

Uncover hidden patterns of data and respond with countermeasures

Security professionals need all the tools at their disposal to increase their visibility in order to prevent security breaches and attacks. This careful guide explores two of the most powerful data analysis and visualization. You'll soon understand how to harness and wield data, from collection and storage to management and analysis as well as visualization and presentation. Using a hands-on approach with real-world examples, this book shows you how to gather feedback, measure the effectiveness of your security methods, and make better decisions. Everything in this book will have practical application for information security professionals. Helps IT and security professionals understand and use data, so they can thwart attacks and understand and visualize vulnerabilities in their networks

Includes more than a dozen real-world examples and hands-on exercises that demonstrate how to analyze

security data and intelligence and translate that information into visualizations that make plain how to prevent attacks. Covers topics such as how to acquire and prepare security data, use simple statistical methods to detect malware, predict rogue behavior, correlate security events, and more. Written by a team of well-known experts in the field of security and data analysis. Lock down your networks, prevent hacks, and thwart malware by improving visibility into the environment, all through the power of data and Security Using Data Analysis, Visualization, and Dashboards.

Traditionally seen as a purely people function unconcerned with numbers, HR is now uniquely placed to use company data to drive performance, both of the people in the organization and the organization as a whole. Data-Driven HR is a practical guide which enables HR professionals to leverage the value of the vast amount of data available at their fingertips. Covering how to identify the most useful sources of data, collect information in a transparent way that is in line with data protection requirements and turn this data into tangible insights, this book marks a turning point for the HR profession. Covering all the key elements of HR including recruitment, employee engagement, performance management, wellbeing and training, Data-Driven HR examines the ways data can contribute to organizational success by, among other things, optimizing processes, driving performance and improving HR decision making. Packed with case studies and real-life examples, this is essential reading for all HR professionals looking to make a measurable difference in their organizations.

Connect data and instruction to improve practice. This book helps bridge the gap between classroom practice and the best of what is known from educational psychology. Teachers will find cutting-edge advances in research and theory on human learning, teaching, and instruction in an easily understood and transferable format. The authors provide detailed guidance for using data to inform practice and tools to align teacher preparation and professional development with today's best practices and most current research. This resource will provide valuable tools for: In-service teachers Pre-service teachers Instructional leaders School and district administrators

Don't simply show your data—tell a story with it! Storytelling with Data teaches you the fundamentals of data visualization and how to communicate effectively with data. You'll discover the power of storytelling and the way to make data a pivotal point in your story. The lessons in this illuminative text are grounded in theory, but made accessible through numerous real-world examples—ready for immediate application to your next graph or presentation. Storytelling is not an inherent skill, especially when it comes to data visualization, and the tools at our disposal don't make it any easier. This book demonstrates how to go beyond conventional tools to reach the root of your data, and how to use your data to create an engaging, informative, compelling story. Specifically, you'll learn how to: Understand the importance of context and audience Determine the appropriate type of graph for your situation Recognize and eliminate the clutter clouding

your information Direct your audience's attention to the most important parts of your data Think like a designer and utilize concepts of design in data visualization Leverage the power of storytelling to help your message resonate with your audience Together, the lessons in this book will help you turn your data into high impact visual stories that stick with your audience. Rid your world of ineffective graphs, one exploding 3D pie chart at a time. There is a story in your data—Storytelling with Data will give you the skills and power to tell it!

Data. Does the word make you cringe? Does it evoke feelings of guilt? Are you unsure how to distill it and use it effectively? Grab this book and learn how to empower yourself and your school community with information gleaned from your school's data. Experienced educators and authors offer simple instructions that can help focus school improvement efforts and result in increasing teacher expertise--a factor that positively affects the quality of life for students long after they have left the classroom. Accepting responsibility for such far-reaching influence requires educators to adopt instructional improvement as a standard by which a school needs to operate and as a means to collaborate and interact with one another. More than that, though, instructional improvement is an important component of successful schools. Learn how to improve instruction by * Collecting the right data--the right way. * Incorporating relevant data into everyone's daily life. * Resisting the impulse to set brand-new goals every year. * Never settling for "good enough." * Anticipating changes--big and small, local and federal. * Collaborating and avoiding privatized practice. * Involving all stakeholders in identifying problems, setting goals, and analyzing data. * Agreeing on what constitutes high-quality instruction and feedback. The challenge is to understand that data--not intuition or anecdotal reports--are tools to be used in getting better at teaching students. And teaching students effectively is what schools are all about. Following the guidance in this book, overcome uncertainty and concerns about data as you learn to collect and analyze both soft and hard data and use their secrets for instructional improvement in your school.

Offers a practical guide for improving schools dramatically that will enable all students from all backgrounds to achieve at high levels. Includes assessment forms, an index, and a DVD.

This beginning graduate textbook teaches data science and machine learning methods for modeling, prediction, and control of complex systems.

For increasingly data-savvy clients, lawyers can no longer give "it depends" answers rooted in anecdotal evidence. Clients insist that their lawyers justify their reasoning, and with more than a limited set of war stories. The considered judgment of an experienced lawyer is unquestionably valuable. However, on balance, clients would rather have the considered judgment of an experienced lawyer informed by the most relevant information required to answer their questions. *Data-Driven Law: Data Analytics and the New Legal Services* helps legal professionals meet the challenges posed by a data-driven

approach to delivering legal services. Its chapters are written by leading experts who cover such topics as: Mining legal data Computational law Uncovering bias through the use of Big Data Quantifying the quality of legal services Data mining and decision-making Contract analytics and contract standards In addition to providing clients with data-based insight, legal firms can track a matter with data from beginning to end, from the marketing spend through to the type of matter, hours spent, billed, and collected, including metrics on profitability and success. Firms can organize and collect documents after a matter and even automate them for reuse. Data on marketing related to a matter can be an amazing source of insight about which practice areas are most profitable. Data-driven decision-making requires firms to think differently about their workflow. Most firms warehouse their files, never to be seen again after the matter closes. Running a data-driven firm requires lawyers and their teams to treat information about the work as part of the service, and to collect, standardize, and analyze matter data from cradle to grave. More than anything, using data in a law practice requires a different mindset about the value of this information. This book helps legal professionals to develop this data-driven mindset.

Statistical Process Monitoring Using Advanced Data-Driven and Deep Learning Approaches tackles multivariate challenges in process monitoring by merging the advantages of univariate and traditional multivariate techniques to enhance their performance and widen their practical applicability. The book proceeds with merging the desirable properties of shallow learning approaches – such as a one-class support vector machine and k-nearest neighbours and unsupervised deep learning approaches – to develop more sophisticated and efficient monitoring techniques. Finally, the developed approaches are applied to monitor many processes, such as waste-water treatment plants, detection of obstacles in driving environments for autonomous robots and vehicles, robot swarm, chemical processes (continuous stirred tank reactor, plug flow reactor, and distillation columns), ozone pollution, road traffic congestion, and solar photovoltaic systems. Uses a data-driven based approach to fault detection and attribution Provides an in-depth understanding of fault detection and attribution in complex and multivariate systems Familiarises you with the most suitable data-driven based techniques including multivariate statistical techniques and deep learning-based methods Includes case studies and comparison of different methods

Your company's data has the potential to add enormous value to every facet of the organization -- from marketing and new product development to strategy to financial management. Yet if your company is like most, it's not using its data to create strategic advantage. Data sits around unused -- or incorrect data fouls up operations and decision making. In Data Driven, Thomas Redman, the "Data Doc," shows how to leverage and deploy data to sharpen your company's competitive edge and enhance its profitability. The author reveals:

- The special properties that make data such a

powerful asset · The hidden costs of flawed, outdated, or otherwise poor-quality data · How to improve data quality for competitive advantage · Strategies for exploiting your data to make better business decisions · The many ways to bring data to market · Ideas for dealing with political struggles over data and concerns about privacy rights Your company's data is a key business asset, and you need to manage it aggressively and professionally. Whether you're a top executive, an aspiring leader, or a product-line manager, this eye-opening book provides the tools and thinking you need to do that.

A "how-to" guide to boosting sales through predictive and prescriptive analytics Data Driven is a uniquely practical guide to increasing sales success, using the power of data analytics. Written by one of the world's leading authorities on the topic, this book shows you how to transform the corporate sales function by leveraging big data into better decision-making, more informed strategy, and increased effectiveness throughout the organization. Engaging and informative, this book tells the story of a newly hired sales chief under intense pressure to deliver higher performance from her team, and how data analytics becomes the ultimate driver behind the sales function turnaround. Each chapter features insightful commentary and practical notes on the points the story raises, and one entire chapter is devoted solely to laying out the Prescriptive Action Model step-by-step giving you the actionable guidance you need to put it into action in your own organization. Predictive and prescriptive analytics is poised to change corporate sales, and companies that fail to adapt to the new realities and adopt the new practices will be left behind. This book explains why the Prescriptive Action Model is the key corporate sales weapon of the 21st Century, and how you can implement this dynamic new resource to bring value to your business. Exploit one of the last remaining sources of competitive advantage Re-engineer the sales function to optimize success rates Implement a more effective analytics model to drive efficient change Boost operational effectiveness and decision making with big data There are fewer competitive edges to gain than ever before. The only thing that's left is to execute business with maximum efficiency and make the smartest business decisions possible. Predictive analytics is the essential method behind this new standard, and Data Driven is the practical guide to complete, efficient implementation.

This book is a "How To" guide for modeling population dynamics using Integral Projection Models (IPM) starting from observational data. It is written by a leading research team in this area and includes code in the R language (in the text and online) to carry out all computations. The intended audience are ecologists, evolutionary biologists, and mathematical biologists interested in developing data-driven models for animal and plant populations. IPMs may seem hard as they involve integrals. The aim of this book is to demystify IPMs, so they become the model of choice for populations structured by size or other continuously varying traits. The book uses real examples of increasing complexity

to show how the life-cycle of the study organism naturally leads to the appropriate statistical analysis, which leads directly to the IPM itself. A wide range of model types and analyses are presented, including model construction, computational methods, and the underlying theory, with the more technical material in Boxes and Appendices. Self-contained R code which replicates all of the figures and calculations within the text is available to readers on GitHub. Stephen P. Ellner is Horace White Professor of Ecology and Evolutionary Biology at Cornell University, USA; Dylan Z. Childs is Lecturer and NERC Postdoctoral Fellow in the Department of Animal and Plant Sciences at The University of Sheffield, UK; Mark Rees is Professor in the Department of Animal and Plant Sciences at The University of Sheffield, UK.

"What do you need to become a data-driven organization? Far more than having big data or a crack team of unicorn data scientists, it requires establishing an effective, deeply-ingrained data culture. This practical book shows you how true data-drivenness involves processes that require genuine buy-in across your company ... Through interviews and examples from data scientists and analytics leaders in a variety of industries ... Anderson explains the analytics value chain you need to adopt when building predictive business models"--Publisher's description.

Paul Bambrick-Santoyo (Managing Director of Uncommon Schools) shows leaders how they can raise their schools to greatness by following a core set of principles. These seven principles, or "levers," allow for consistent, transformational, and replicable growth. With intentional focus on these areas, leaders will leverage much more learning from the same amount of time investment. Fundamentally, each of these seven levers answers the core questions of school leadership: What should an effective leader do, and how and when should they do it. Aimed at all levels of school leadership, the book is for any principal, superintendent, or educator who wants to be a transformational leader. The book includes 30 video clips of top-tier leaders in action. These videos bring great schools to you, and support a deeper understanding of both the components of success and how it looks as a whole. There are also many helpful rubrics, extensive professional development tools, calendars, and templates. Explores the core principles of effective leadership Author's charter school, North Star Academy in Newark, New Jersey, received the highest possible award given by the U.S. Department of Education; the National Blue Ribbon Print version includes an instructive DVD with 30 video clips to show how it looks in real life. E-book customers: please note that details on how to access the content from the DVD may be found in the e-book Table of Contents. Please see the section: "How to Access DVD Contents" Bambrick-Santoyo has trained more than 1,800 school leaders nationwide in his work at Uncommon Schools and is a recognized expert on transforming schools to achieve extraordinary results.

This indispensable practitioner's guide helps to build the capacity of school psychologists, administrators, and teachers to use data in collaborative decision making. It presents an applied, step-by-step approach for creating and running

effective data teams within a problem-solving framework. The authors describe innovative ways to improve academic and behavioral outcomes at the individual, class, grade, school, and district levels. Applications of readily available technology tools are highlighted. In a large-size format with lay-flat binding for easy photocopying, the book includes learning activities and helpful reproducible forms. Purchasers can download and print the reproducible forms, as well as access Excel spreadsheets and PowerPoint slides related to the book, at the companion website. This book is in The Guilford Practical Intervention in the Schools Series, edited by Sandra M. Chafouleas.

Thanks to initiatives like the Common Core and Race to the Top, accountability requirements continue to be a reality for educators. Yet many are still unsure of how to use data to make well-informed instructional decisions. The Data-Driven Classroom comes to the rescue with a systematic, universal process that shows teachers how to: examine student assessment results to identify a curricular or skill area to target for individual intervention or large-group instructional revision; develop, implement, and assess the effectiveness of the intervention or revision; and develop an action plan for future instructional cycles. Author Craig A. Mertler sheds light on how teachers can make sense of overwhelming standardized test reports while avoiding pitfalls like over-interpreting data. In these pages you will also find practical classroom examples and templates designed to guide teachers of all grade levels and subject areas through the comprehensive decision-making framework.

Succeeding with data isn't just a matter of putting Hadoop in your machine room, or hiring some physicists with crazy math skills. It requires you to develop a data culture that involves people throughout the organization. In this O'Reilly report, DJ Patil and Hilary Mason outline the steps you need to take if your company is to be truly data-driven—including the questions you should ask and the methods you should adopt. You'll not only learn examples of how Google, LinkedIn, and Facebook use their data, but also how Walmart, UPS, and other organizations took advantage of this resource long before the advent of Big Data. No matter how you approach it, building a data culture is the key to success in the 21st century. You'll explore: Data scientist skills—and why every company needs a Spock How the benefits of giving company-wide access to data outweigh the costs Why data-driven organizations use the scientific method to explore and solve data problems Key questions to help you develop a research-specific process for tackling important issues What to consider when assembling your data team Developing processes to keep your data team (and company) engaged Choosing technologies that are powerful, support teamwork, and easy to use and learn

Many enterprises are investing in a next-generation data lake, hoping to democratize data at scale to provide business insights and ultimately make automated intelligent decisions. In this practical book, author Zhamak Dehghani reveals that, despite the time, money, and effort poured into them, data warehouses and data lakes fail when applied at the scale and speed of today's organizations. A distributed data mesh is a better choice. Dehghani guides architects, technical leaders, and decision makers on their journey from monolithic big data architecture to a paradigm that draws from modern distributed architecture. A data mesh considers domains as a first-class concern, applies platform thinking to create self-serve data infrastructure, and treats data as a product. This book shows you why and how. Examine the current landscape of data architectures, their underlying characteristics, and failure modes Learn how to divide data (and its supporting technology stacks and architecture) into operational data and analytical data Get a complete introduction to data mesh principles and logical architecture Create a foundation for gaining value from analytical data and historical facts at scale Move beyond a monolithic data lake to a distributed

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data mesh

SHORTLISTED: CMI Management Book of the Year 2017 - Management Futures Category Data is changing the nature of competition. Making sense of it is tough; taking advantage of it is even tougher. There is a clear business opportunity for organizations to use data and analytics to transform business performance. Data-driven Organization Design provides a practical framework for HR and organization design practitioners to build a baseline of data, set objectives, carry out fixed and dynamic process design, map competencies, and right-size the organization so everyone performs to their potential and organizations have a hope of getting and sustaining a competitive edge. Data-driven Organization Design shows how to collect the right data on organizations, present it meaningfully and ask the right questions of it to help complex, fluid organizations constantly evolve and meet moving objectives. Through the use of case studies, practical tips, and sample exercises, it explains in detail how to use data and analytics to connect all the elements of the system so you can design an environment for people to perform, an organization which has the right people, in the right place, doing the right things, at the right time. Whether you are looking to implement a long-term transformation, large redesign, or a one-off small scale project, Data-driven Organization Design will guide you through making the most of organizational data and analytics to drive business performance.

Get the expert perspective and practical advice on big data The Big Data-Driven Business: How to Use Big Data to Win Customers, Beat Competitors, and Boost Profits makes the case that big data is for real, and more than just big hype. The book uses real-life examples—from Nate Silver to Copernicus, and Apple to Blackberry—to demonstrate how the winners of the future will use big data to seek the truth. Written by a marketing journalist and the CEO of a multi-million-dollar B2B marketing platform that reaches more than 90% of the U.S. business population, this book is a comprehensive and accessible guide on how to win customers, beat competitors, and boost the bottom line with big data. The marketplace has entered an era where the customer holds all the cards. With unprecedented choice in both the consumer world and the B2B world, it's imperative that businesses gain a greater understanding of their customers and prospects. Big data is the key to this insight, because it provides a comprehensive view of a company's customers—who they are, and who they may be tomorrow. The Big Data-Driven Business is a complete guide to the future of business as seen through the lens of big data, with expert advice on real-world applications. Learn what big data is, and how it will transform the enterprise Explore why major corporations are betting their companies on marketing technology Read case studies of big data winners and losers Discover how to change privacy and security, and remodel marketing Better information allows for better decisions, better targeting, and better reach. Big data has become an indispensable tool for the most effective marketers in the business, and it's becoming less of a competitive advantage and more like an industry standard. Remaining relevant as the marketplace evolves requires a full understanding and application of big data, and The Big Data-Driven Business provides the practical guidance businesses need.

The bestselling guide for school leaders—updated in a new edition Data-driven instruction is the philosophy that schools should focus on two simple questions: how do you know if are students learning? And when they are not, what do you do about it? Driven by Data 2.0 is a practical guide that answers these questions to empower schools to achieve significant gains in student achievement. Rooted in a proven framework that has been implemented in thousands of schools, the book presents what makes schools successful along with tools to put the framework into place to make data work for your schools: Assess—set the roadmap for learning Analyze—identify why students struggle Act—teach more effectively what students need Build the culture—train and develop your staff so that data-driven instruction can thrive If you're a K – 12 leader, coach, or teacher looking to implement data-driven instruction in your school district, Driven by Data 2.0 has the tools

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to train your staff: PD materials, videos of exemplar practice and all the resources you need to achieve remarkable results.

How to analyze data settings rather than data sets, acknowledging the meaning-making power of the local. In our data-driven society, it is too easy to assume the transparency of data. Instead, Yanni Loukissas argues in *All Data Are Local*, we should approach data sets with an awareness that data are created by humans and their dutiful machines, at a time, in a place, with the instruments at hand, for audiences that are conditioned to receive them. The term data set implies something discrete, complete, and portable, but it is none of those things.

Examining a series of data sources important for understanding the state of public life in the United States—Harvard's Arnold Arboretum, the Digital Public Library of America, UCLA's Television News Archive, and the real estate marketplace Zillow—Loukissas shows us how to analyze data settings rather than data sets. Loukissas sets out six principles: all data are local; data have complex attachments to place; data are collected from heterogeneous sources; data and algorithms are inextricably entangled; interfaces recontextualize data; and data are indexes to local knowledge. He then provides a set of practical guidelines to follow. To make his argument, Loukissas employs a combination of qualitative research on data cultures and exploratory data visualizations. Rebutting the “myth of digital universalism,” Loukissas reminds us of the meaning-making power of the local.

This practical content guide empowers businesses to understand, identify and act on big-data opportunities, producing superior business insights for prolific marketing gains.

Cut through the mystique to learn the real drivers of great school leadership *Leverage Leadership 2.0* answers the basic question: what do great school leaders do that separates them from the rest? Rooted in the observation and training of over 20,000 school leaders worldwide, *Leverage Leadership 2.0* offers a practical, updated and easier-to-use follow-up to the original, with field-tested techniques and actionable advice. As educational leaders around the world implement *Leverage Leadership* ideas, their collective stories have revealed a simple framework by which the seven levers may be implemented: See It, Name It, Do It. This book aligns classic *Leverage Leadership* principles with this proven framework to streamline implementation and help good leaders become great. Expert discussion and real-life success stories prove that effective leadership is not about innate charisma, charm, or personality—it's about how a leader uses their time. Aimed at all levels of school leadership, this book shows you what to do, and how and when to do it. The companion DVD includes 30 real-world videos that showcase effective leadership happening in our schools right now, and all templates, tools, and other professional development materials have been fully refreshed with a renewed focus on real-world implementation. Informational, inspirational, and highly motivational, this book explores both the separate components of success and what it looks like as a whole. Learn the core principles of effective leadership Understand what success looks like on the ground Practice the seven levers of leadership that allow transformational growth Adopt the tools and techniques that facilitate a schoolwide transformation Educational leaders from a diverse array of schools around the world have found unprecedented success using the key principles detailed in *Leverage Leadership*, and this book is inspired — and informed — by their stories. *Leverage Leadership 2.0* is the practical resource school leaders need to start making real change happen today.

Axiom Business Book Award Silver Medalist in Business Technology The indispensable guide to data-powered marketing from the

team behind the data management platform that helps fuel Salesforce?the #1 customer relationship management (CRM) company in the world A tectonic shift in the practice of marketing is underway. Digital technology, social media, and e-commerce have radically changed the way consumers access information, order products, and shop for services. Using the latest technologies?cloud, mobile, social, internet of things (IoT), and artificial intelligence (AI)?we have more data about consumers and their needs, wants, and affinities than ever before. Data Driven will show you how to: ?Target and delight your customers with unprecedented accuracy and success?Bring customers closer to your brand and inspire them to engage, purchase, and remain loyal?Capture, organize, and analyze data from every source and activate it across every channel?Create a data-powered marketing strategy that can be customized for any audience?Serve individual consumers with highly personalized interactions?Deliver better customer service for the best customer experience?Improve your products and optimize your operating systems?Use AI and IoT to predict the future direction of markets You'll discover the three principles for building a successful data strategy and the five sources of data-driven power. You'll see how top companies put these data-driven strategies into action: how Pandora used second- and third-hand data to learn more about its listeners; how Georgia-Pacific moved from scarcity to abundance in the data sphere; and how Dunkin' Brands leveraged CRM data as a force multiplier for customer engagement. And if you're wondering what the future holds, you'll receive seven forecasts to better prepare you for what may come next. Sure to be a classic, Data Driven is a practical road map to the modern marketing landscape and a toolkit for success in the face of changes already underway and still to come.

This book presents an accessible introduction to data-driven storytelling. Resulting from unique discussions between data visualization researchers and data journalists, it offers an integrated definition of the topic, presents vivid examples and patterns for data storytelling, and calls out key challenges and new opportunities for researchers and practitioners.

Tools and techniques from the trailblazers in data-based education reform Over a period of several years, Amanda Datnow and Vicki Park visited public schools with a reputation for being ahead of the pack in data-driven decision making. The results of this pioneering study reveal how education leaders can make data work for students and teachers, rather than against them. This book is an essential guide to meeting the challenges of high-stakes accountability, building performance-based schools, and improving student outcomes. By following the advice in this book, you'll be able to transform data overload into a data-positive school culture. You'll learn the difference between "data-driven leadership" and "data-informed leadership," and how to use distributed leadership to inspire collaboration and guided analysis. Incorporating narrative reflections drawn from real educators and administrators, the authors refine their observations and interviews into practical conclusions that leaders can put to use immediately. This book empowers leaders to support inquiry, build trust in data-based initiatives, establish goals for evidence use, and provide educators with the skills they need to mobilize data for the good of all stakeholders. "Datnow and Park's ideas are easily accessible and grounded in clear examples, and their seven 'calls' about what needs to be done nail the problem and the solutions. Use this book as your action guide and you'll be rewarded with better results in student learning." —Michael Fullan, professor

emeritus, University of Toronto “Datnow and Park uncover, at last, what it means to use data to inform leadership. Documenting the four P’s (people, policies, practices, and patterns) in schools, we learn about the organization and dynamics of reform informed by data. A mustread!” —Ann Lieberman, senior scholar, Stanford University

Data-driven personas are a significant advancement in the fields of human-centered informatics and human-computer interaction. Data-driven personas enhance user understanding by combining the empathy inherent with personas with the rationality inherent in analytics using computational methods. Via the employment of these computational methods, the data-driven persona method permits the use of large-scale user data, which is a novel advancement in persona creation. A common approach for increasing stakeholder engagement about audiences, customers, or users, persona creation remained relatively unchanged for several decades. However, the availability of digital user data, data science algorithms, and easy access to analytics platforms provide avenues and opportunities to enhance personas from often sketchy representations of user segments to precise, actionable, interactive decision-making tools—data-driven personas! Using the data-driven approach, the persona profile can serve as an interface to a fully functional analytics system that can present user representation at various levels of information granularity for more task-aligned user insights. We trace the techniques that have enabled the development of data-driven personas and then conceptually frame how one can leverage data-driven personas as tools for both empathizing with and understanding of users. Presenting a conceptual framework consisting of (a) persona benefits, (b) analytics benefits, and (c) decision-making outcomes, we illustrate applying this framework via practical use cases in areas of system design, digital marketing, and content creation to demonstrate the application of data-driven personas in practical applied situations. We then present an overview of a fully functional data-driven persona system as an example of multi-level information aggregation needed for decision making about users. We demonstrate that data-driven personas systems can provide critical, empathetic, and user understanding functionalities for anyone needing such insights.

A foundational yet practical approach to UX that delivers more creative, collaborative, holistic, and mature design solutions, regardless of your background or experience

About This Book Improve your UX design awareness and skills Gain greater confidence to know when you have delivered a “good” UX design Learn by example using a book designed by a UX mind for a UX mind Who This Book Is For This book is written for the beginner as well as the experienced UX practitioner, regardless of team size, company size, or job title. It is also intended for anyone with an interest in UX, engages with UX, is involved in any way in interactive problem solving and design, or simply wants to learn more about what we do, how we do it, and why those in the UX field are so passionate about wanting to do it better. What You Will Learn Awaken your UX mind and dispel the myths of non-UX thinkers Create the six optimal conditions for your best ideas to appear Identify and incorporate the ten design principles found in all good UX design Develop a broader understanding of Information Architecture (IA) to better engage, guide, and inform Develop a fundamental understanding of patterns and the properties that create them Raise your level of UX maturity with a strategy that transforms your approach to problem solving and helps others understand the true value of your work Utilize important tools of the

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UX trade that never go out of style Increase your knowledge of UX, incorporate valuable ideas and insights into your work, and look at design from a very unique perspective In Detail Written in an easy-to-read style, this book provides real-world examples, a historical perspective, and a holistic approach to design that will ground you in the fundamental essentials of interactive design, allow you to make more informed design decisions, and increase your understanding of UX in order to reach the highest levels of UX maturity. As you will see, UX is more than just delighting customers and users. It is also about thinking like a UX practitioner, making time for creativity, recognizing good design when you see it, understanding Information Architecture as more than just organizing and labeling websites, using design patterns to influence user behavior and decision making, approaching UX from a business perspective, transforming your client's and company's fundamental understanding of UX and its true value, and so much more. This book is an invaluable resource of knowledge, perspective, and inspiration for those seeking to become better UX designers, increase their confidence, become more mature design leaders, and deliver solutions that provide measurable value to stakeholders, customers, and users regardless of project type, size, and delivery method. Style and approach An in-depth, easy to read, and entertaining journey into and through the world of UX using real-world examples, thoughtful illustrations, and engaging quotes to inspire and explain fully the how and why of UX in a practical and impactful way and used immediately in your own work. Data-Driven Solutions to Transportation Problems explores the fundamental principle of analyzing different types of transportation-related data using methodologies such as the data fusion model, the big data mining approach, computer vision-enabled traffic sensing data analysis, and machine learning. The book examines the state-of-the-art in data-enabled methodologies, technologies and applications in transportation. Readers will learn how to solve problems relating to energy efficiency under connected vehicle environments, urban travel behavior, trajectory data-based travel pattern identification, public transportation analysis, traffic signal control efficiency, optimizing traffic networks network, and much more. Synthesizes the newest developments in data-driven transportation science Includes case studies and examples in each chapter that illustrate the application of methodologies and technologies employed Useful for both theoretical and technically-oriented researchers

At what point does the sacrifice to our personal information outweigh the public good? If public policymakers had access to our personal and confidential data, they could make more evidence-based, data-informed decisions that could accelerate economic recovery and improve COVID-19 vaccine distribution. However, access to personal data comes at a steep privacy cost for contributors, especially underrepresented groups. Protecting Your Privacy in a Data-Driven World is a practical, nontechnical guide that explains the importance of balancing these competing needs and calls for careful consideration of how data are collected and disseminated by our government and the private sector. Not addressing these concerns can harm the same communities policymakers are trying to protect through data privacy and confidentiality legislation.

Use this introductory guide to get to grips with people analytics and learn how to find, collect, analyze and use your data to add business value.

Get hands-on with building data-driven applications using Danfo.js in combination with other data analysis tools and

techniques Key Features Build microservices to perform data transformation and ML model serving in JavaScript Explore what Danfo.js is and how it helps with data analysis and data visualization Combine Danfo.js and TensorFlow.js for machine learning Book Description Most data analysts use Python and pandas for data processing for the convenience and performance these libraries provide. However, JavaScript developers have always wanted to use machine learning in the browser as well. This book focuses on how Danfo.js brings data processing, analysis, and ML tools to JavaScript developers and how to make the most of this library to build data-driven applications. Starting with an overview of modern JavaScript, you'll cover data analysis and transformation with Danfo.js and Dnotebook. The book then shows you how to load different datasets, combine and analyze them by performing operations such as handling missing values and string manipulations. You'll also get to grips with data plotting, visualization, aggregation, and group operations by combining Danfo.js with Plotly. As you advance, you'll create a no-code data analysis and handling system and create-react-app, react-table, react-chart, Draggable.js, and tailwindcss, and understand how to use TensorFlow.js and Danfo.js to build a recommendation system. Finally, you'll build a Twitter analytics dashboard powered by Danfo.js, Next.js, node-nlp, and Twit.js. By the end of this app development book, you'll be able to build and embed data analytics, visualization, and ML capabilities into any JavaScript app in server-side Node.js or the browser. What you will learn Perform data experimentation and analysis with Danfo.js and Dnotebook Build machine learning applications using Danfo.js integrated with TensorFlow.js Connect Danfo.js with popular database applications to aid data analysis Create a no-code data analysis and handling system using internal libraries Develop a recommendation system with Danfo.js and TensorFlow.js Build a Twitter analytics dashboard for sentiment analysis and other types of data insights Who this book is for This book is for data analysts, data scientists, and JavaScript developers who want to create data-driven applications in the JavaScript/Node.js environment. Intermediate-level knowledge of JavaScript programming and data science using pandas is expected.

Voted one of the "six best books for data geeks" by The Financial Times. Read the review here. Lecturers, request your electronic inspection copy. Never has it been more essential to work in the world of data. Scholars and students need to be able to analyze, design, and curate information into useful tools of communication, insight, and understanding. This book is the starting point in learning the process and skills of data visualization, teaching the concepts and skills of how to present data, and inspiring effective visual design. Benefits of this book: A flexible step-by-step journey that equips you to achieve great data visualization A curated collection of classic and contemporary examples, giving illustrations of good and bad practice Examples on every page to give creative inspiration Illustrations of good and bad practice show you how to critically evaluate and improve your own work Advice and experience from the best designers in the field Loads of

online practical help, checklists, case studies and exercises make this the most comprehensive text available. Counselors make a difference—and now you can prove it. As students' needs change, dedicated school counselors have been evolving their practice. You see the results every day, on the faces of the at-risk students you serve. To meet accountability standards, though, you need more than faces: You need data the number-crunchers can understand. With this user-friendly manual, make the shift to evidence-based practices and interventions in a data-driven, comprehensive school counseling program based on ASCA's national model—while keeping the personal nature of your work intact. The book includes Visual guides and checklists for every step of the process. Examples of successful counseling program evolution. Guidance on developing and submitting a successful Recognized ASCA Model Program (RAMP) application. Supporting documents in an online resource center. Ensure that school counseling is recognized as an essential part of school improvement and students' academic success by using this unique and innovative model. "Provides realistic examples, clear templates, and step-by-step strategies that ease the stress of what is often seen as an overwhelming process." Judith Bookhamer, Executive Director Pennsylvania School Counselors Association "Provides succinct and straight-forward tools to assist school counselors in marrying data-based decision-making practices with evidence-based counseling to create successful outcomes. This is a school counselor's dream!" Franciene Sabens, Professional School Counselor Chester High School, Chester, IL "Starting with creating mission and vision statements and ending with advocacy efforts, the authors outline specific ways school counselors can integrate evidence-based interventions in their programming to positively impact student outcomes." Jennifer Betters-Bubon, Assistant Professor University of Wisconsin-Whitewater

Driven by Data A Practical Guide to Improve Instruction John Wiley & Sons

This book aims to explain Data Analytics towards decision making in terms of models and algorithms, theoretical concepts, applications, experiments in relevant domains or focused on specific issues. It explores the concepts of database technology, machine learning, knowledge-based system, high performance computing, information retrieval, finding patterns hidden in large datasets and data visualization. Also, it presents various paradigms including pattern mining, clustering, classification, and data analysis. Overall aim is to provide technical solutions in the field of data analytics and data mining. Features: Covers descriptive statistics with respect to predictive analytics and business analytics. Discusses different data analytics platforms for real-time applications. Explain SMART business models. Includes algorithms in data sciences alongwith automated methods and models. Explores varied challenges encountered by researchers and businesses in the realm of real-time analytics. This book aims at researchers and graduate students in data analytics, data sciences, data mining, and signal processing.

Data is your most valuable leadership asset—here's how to use it The Data Driven Leader presents a clear, accessible guide to solving important leadership challenges through human resources-focused and other data analytics. This engaging book shows you how to transform the HR function and overall organizational effectiveness by using data to make decisions grounded in facts vs. opinions, identify root causes behind your company's thorniest problems and move toward a winning, future-focused business strategy. Realistic and actionable, this book tells the story of a successful sales executive who, after leading an analytics-driven turnaround (in Data Driven, this book's predecessor), faces a new turnaround challenge as chief human resources officer. Each chapter features insightful commentary and practical notes on the points the story raises, guiding you to put HR analytics into action in your organization. HR and other leaders cannot afford to overlook the power and competitive advantages of data-driven decision-making and strategies. This book reflects the growing trend of CEOs choosing analytics-minded business leaders to head HR, at a time when workplaces everywhere face game-changing forces including automation, robotics and artificial intelligence. It is urgent that human resources leaders embrace analytics, not only to remain professionally relevant but also to help their organizations successfully navigate this digital transformation. HR professionals can and must: Understand essential data science principles and corporate analytics models Identify and execute effective data analytics initiatives Boost HR and company productivity and performance with metrics that matter Shape an analytics-centric culture that generates data driven leaders Most organizations capture and report data, but data is useless without analysis that leads to action. The Data Driven Leader shows you how to use this tremendous asset to lead your organization higher.

Written by renowned data science experts Foster Provost and Tom Fawcett, Data Science for Business introduces the fundamental principles of data science, and walks you through the "data-analytic thinking" necessary for extracting useful knowledge and business value from the data you collect. This guide also helps you understand the many data-mining techniques in use today. Based on an MBA course Provost has taught at New York University over the past ten years, Data Science for Business provides examples of real-world business problems to illustrate these principles. You'll not only learn how to improve communication between business stakeholders and data scientists, but also how participate intelligently in your company's data science projects. You'll also discover how to think data-analytically, and fully appreciate how data science methods can support business decision-making. Understand how data science fits in your organization—and how you can use it for competitive advantage Treat data as a business asset that requires careful investment if you're to gain real value Approach business problems data-analytically, using the data-mining process to gather good data in the most appropriate way Learn general concepts for actually extracting knowledge from data Apply data science principles when interviewing data science job candidates

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