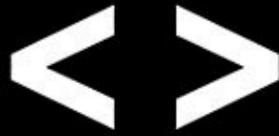


METADATA

JEFFREY POMERANTZ



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Metadata-Jeffrey Pomerantz 2015-11-06 Introduction -- Definitions -- Descriptive metadata -- Administrative metadata -- Use metadata -- Enabling technologies for metadata -- The Semantic Web -- The future of metadata

Information and Society-Michael Buckland 2017-03-03 A short, informal account of our ever-increasing dependence on a complex multiplicity of messages, records, documents, and data. We live in an information society, or so we are often told. But what does that mean? This volume in the MIT Press Essential Knowledge series offers a concise, informal account of the ways in which information and society are related and of our ever-increasing dependence on a complex multiplicity of messages, records, documents, and data. Using information in its everyday, nonspecialized sense, Michael Buckland explores the influence of information on what we know, the role of communication and recorded information in our daily lives, and the difficulty (or ease) of finding information. He shows that all this involves human perception, social behavior, changing technologies, and issues of trust. Buckland argues that every society is an "information society"; a "non-information society" would be a contradiction in terms. But the shift from oral and gestural communication to documents, and the wider use of documents facilitated by new technologies, have made our society particularly information intensive. Buckland describes the rising flood of data, documents, and records, outlines the dramatic long-term growth of documents, and traces the rise of techniques to cope with them. He examines the physical manifestation of information as documents, the emergence of data sets, and how documents and data are discovered and used. He explores what individuals and societies do with information; offers a basic summary of how collected documents are arranged and described; considers the nature of naming; explains the uses of metadata; and evaluates selection methods, considering relevance, recall, and precision.

Information and the Modern Corporation-James W. Cortada 2011-10-07 A guide to information as the transformative tool of modern business. While we have been preoccupied with the latest i-gadget from Apple and with Google's ongoing expansion, we may have missed something: the fundamental transformation of whole firms and industries into giant information-processing machines. Today, more than eighty percent of workers collect and analyze information (often in digital form) in the course of doing their jobs. This book offers a guide to the role of information in modern business, mapping the use of information within work processes and tracing flows of information across supply-chain management, product development, customer relations, and sales. The emphasis is on information itself, not on information technology. Information, overshadowed for a while by the glamour and novelty of IT, is the fundamental component of the modern corporation. In *Information and the Modern Corporation*, longtime IBM manager and consultant James Cortada clarifies the differences among data, facts, information, and knowledge and describes how the art of analytics has all but eliminated decision making based on gut feeling, replacing it with fact-based decisions. He describes the working style of "road warriors," whose offices are anywhere their laptops and cell phones are and whose deep knowledge of a given topic becomes their medium of exchange. Information is the core of the modern enterprise, and the use of information defines the activities of a firm. This essential guide shows managers and employees better ways to leverage information—by design and not by accident.

Memes in Digital Culture-Limor Shifman 2014 Taking "Gangnam Style" seriously: what Internet memes can tell us about digital culture. In December 2012, the exuberant video "Gangnam Style" became the first YouTube clip to be viewed more than one billion times. Thousands of its viewers responded by creating and posting their own variations of the video—"Mitt Romney Style," "NASA Johnson Style," "Egyptian Style," and many others. "Gangnam Style" (and its attendant parodies, imitations, and derivations) is one of the most famous examples of an Internet meme: a piece of digital content that spreads quickly around the web in various iterations and becomes a shared cultural experience. In this book, Limor

Shifman investigates Internet memes and what they tell us about digital culture. Shifman discusses a series of well-known Internet memes—including "Leave Britney Alone," the pepper-spraying cop, LOLCats, Scumbag Steve, and Occupy Wall Street's "We Are the 99 Percent." She offers a novel definition of Internet memes: digital content units with common characteristics, created with awareness of each other, and circulated, imitated, and transformed via the Internet by many users. She differentiates memes from virals; analyzes what makes memes and virals successful; describes popular meme genres; discusses memes as new modes of political participation in democratic and nondemocratic regimes; and examines memes as agents of globalization. Memes, Shifman argues, encapsulate some of the most fundamental aspects of the Internet in general and of the participatory Web 2.0 culture in particular. Internet memes may be entertaining, but in this book Limor Shifman makes a compelling argument for taking them seriously.

Cloud Computing-Nayan B. Ruparelia 2016-05-06 Why cloud computing represents a paradigm shift for business, and how business users can best take advantage of cloud services. Most of the information available on cloud computing is either highly technical, with details that are irrelevant to non-technologists, or pure marketing hype, in which the cloud is simply a selling point. This book, however, explains the cloud from the user's viewpoint—the business user's in particular. Nayan Ruparelia explains what the cloud is, when to use it (and when not to), how to select a cloud service, how to integrate it with other technologies, and what the best practices are for using cloud computing. Cutting through the hype, Ruparelia cites the simple and basic definition of cloud computing from the National Institute of Science and Technology: a model enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources. Thus with cloud computing, businesses can harness information technology resources usually available only to large enterprises. And this, Ruparelia demonstrates, represents a paradigm shift for business. It will ease funding for startups, alter business plans, and allow big businesses greater agility. Ruparelia discusses the key issues for any organization considering cloud computing: service level agreements, business service delivery and consumption, finance, legal jurisdiction, security, and social responsibility. He introduces novel concepts made possible by cloud computing: cloud cells, or specialist clouds for specific uses; the personal cloud; the cloud of things; and cloud service exchanges. He examines use case patterns in terms of infrastructure and platform, software information, and business process; and he explains how to transition to a cloud service. Current and future users will find this book an indispensable guide to the cloud.

The Book-Amaranth Borsuk 2018-05-04 The book as object, as content, as idea, as interface. What is the book in a digital age? Is it a physical object containing pages encased in covers? Is it a portable device that gives us access to entire libraries? The codex, the book as bound paper sheets, emerged around 150 CE. It was preceded by clay tablets and papyrus scrolls. Are those books? In this volume in the MIT Press Essential Knowledge series, Amaranth Borsuk considers the history of the book, the future of the book, and the idea of the book. Tracing the interrelationship of form and content in the book's development, she bridges book history, book arts, and electronic literature to expand our definition of an object we thought we knew intimately. Contrary to the many reports of its death (which has been blamed at various times on newspapers, television, and e-readers), the book is alive. Despite nostalgic paeans to the codex and its printed pages, Borsuk reminds us, the term "book" commonly refers to both medium and content. And the medium has proved to be malleable. Rather than pinning our notion of the book to a single form, Borsuk argues, we should remember its long history of transformation. Considering the book as object, content, idea, and interface, she shows that the physical form of the book has always been the site of experimentation and play. Rather than creating a false dichotomy between print and digital media, we should appreciate their continuities.

Fake Photos-Hany Farid 2019-09-10 A concise and accessible guide to

techniques for detecting doctored and fake images in photographs and digital media. Stalin, Mao, Hitler, Mussolini, and other dictators routinely doctored photographs so that the images aligned with their messages. They erased people who were there, added people who were not, and manipulated backgrounds. They knew if they changed the visual record, they could change history. Once, altering images required hours in the darkroom; today, it can be done with a keyboard and mouse. Because photographs are so easily faked, fake photos are everywhere—supermarket tabloids, fashion magazines, political ads, and social media. How can we tell if an image is real or false? In this volume in the MIT Press Essential Knowledge series, Hany Farid offers a concise and accessible guide to techniques for detecting doctored and fake images in photographs and digital media. Farid, an expert in photo forensics, has spent two decades developing techniques for authenticating digital images. These techniques model the entire image-creation process in order to find the digital disruption introduced by manipulation of the image. Each section of the book describes a different technique for analyzing an image, beginning with those requiring minimal technical expertise and advancing to those at intermediate and higher levels. There are techniques for, among other things, reverse image searches, metadata analysis, finding image imperfections introduced by JPEG compression, image cloning, tracing pixel patterns, and detecting images that are computer generated. In each section, Farid describes the techniques, explains when they should be applied, and offers examples of image analysis.

Behavioral Insights-Michael Hallsworth 2020 "An authoritative guide for general readers in both public policy and business to help them understand exactly what behavioral insights are, why they matter, and where they may go next"--

Human Information Retrieval-Julian Warner 2009-09-25 An overview of information retrieval rooted in the humanities and social sciences but informed by an understanding of information technology and information theory. Information retrieval in the age of Internet search engines has become part of ordinary discourse and everyday practice: "Google" is a verb in common usage. Thus far, more attention has been given to practical understanding of information retrieval than to a full theoretical account. In *Human Information Retrieval*, Julian Warner offers a comprehensive overview of information retrieval, synthesizing theories from different disciplines (information and computer science, librarianship and indexing, and information society discourse) and incorporating such disparate systems as WorldCat and Google into a single, robust theoretical framework. There is a need for such a theoretical treatment, he argues, one that reveals the structure and underlying patterns of this complex field while remaining congruent with everyday practice. Warner presents a labor theoretic approach to information retrieval, building on his previously formulated distinction between semantic and syntactic mental labor, arguing that the description and search labor of information retrieval can be understood as both semantic and syntactic in character. Warner's information science approach is rooted in the humanities and the social sciences but informed by an understanding of information technology and information theory. The chapters offer a progressive exposition of the topic, with illustrative examples to explain the concepts presented. Neither narrowly practical nor largely speculative, *Human Information Retrieval* meets the contemporary need for a broader treatment of information and information systems.

XML for Catalogers and Metadata Librarians-Timothy W. Cole 2013-05-23 This book provides a foundation of knowledge for catalogers, metadata librarians, and library school students on the Extensible Markup Language (XML)—one of the most commonly listed qualifications in today's cataloger and metadata librarian job postings. • Covers XML from basic concepts, such as core syntax and grammar, to advanced topics, such as transformation and schema design • Provides an in-depth look at metadata standards used in the library domain, including MARC, Dublin Core, MODS, and others • Introduces available XML tools, utilities, and XML related technologies • Includes case studies that draw from real-world applications that show how XML is used in library cataloging and metadata workflows

MOOCs-Jonathan Haber 2014-09-26 Everything you always wanted to know about MOOCs: an account of massive open online courses and what they might mean for the future of higher education.

Open Access-Peter Suber 2012 What is open access? -- Motivation -- Varieties -- Policies -- Scope -- Copyright -- Economics -- Casualties -- Future -- Self-help.

Algorithms-Panos Louridas 2020-08-18 In the tradition of *Real World Algorithms: A Beginner's Guide*, Panos Louridas is back to introduce algorithms in an accessible manner, utilizing various examples to explain not just what algorithms are but how they work. Digital technology runs on algorithms, sets of instructions that describe how to do something efficiently. Application areas range from search engines to tournament scheduling, DNA sequencing, and machine learning. Arguing that every educated person today needs to have some understanding of algorithms and what they do, in this volume in the MIT Press Essential Knowledge series, Panos Louridas offers an introduction to algorithms that is accessible to the nonspecialist reader. Louridas explains not just what algorithms are but also how they work, offering a wide range of examples and keeping mathematics to a minimum.

GPS-Paul E. Ceruzzi 2018-11-06 A concise history of GPS, from its military origins to its commercial applications and ubiquity in everyday life. GPS is ubiquitous in everyday life. GPS mapping is standard equipment in many new cars and geolocation services are embedded in smart phones. GPS makes Uber and Lyft possible; driverless cars won't be able to drive without it. In this volume in the MIT Press Essential Knowledge series, Paul Ceruzzi offers a concise history of GPS, explaining how a once-obscure space technology became an invisible piece of our infrastructure, as essential to modern life as electric power or clean water. GPS relays precise time and positioning information from orbiting satellites to receivers on the ground, at sea, and in the air. It operates worldwide, and its basic signals are free, although private companies can commodify the data provided. Ceruzzi recounts the origins of GPS and its predecessor technologies, including early aircraft navigation systems and satellites. He describes the invention of GPS as a space technology in the post-Apollo, pre-Space Shuttle years and its first military and commercial uses. Ceruzzi explains how the convergence of three major technological developments—the microprocessor, the Internet, and cellular telephony—enabled the development and application of GPS technology. Recognizing the importance of satellite positioning systems in a shifting geopolitical landscape—and perhaps doubting U.S. assurances of perpetual GPS availability—other countries are now building or have already developed their own systems, and Ceruzzi reports on these efforts in the European Union, Russia, India, China, and Japan.

The Internet of Things-Samuel Greengard 2015-03-20 A guided tour through the Internet of Things, a networked world of connected devices, objects, and people that is changing the way we live and work. We turn on the lights in our house from a desk in an office miles away. Our refrigerator alerts us to buy milk on the way home. A package of cookies on the supermarket shelf suggests that we buy it, based on past purchases. The cookies themselves are on the shelf because of a "smart" supply chain. When we get home, the thermostat has already adjusted the temperature so that it's toasty or bracing, whichever we prefer. This is the Internet of Things—a networked world of connected devices, objects, and people. In this book, Samuel Greengard offers a guided tour through this emerging world and how it will change the way we live and work. Greengard explains that the Internet of Things (IoT) is still in its early stages. Smart phones, cloud computing, RFID (radio-frequency identification) technology, sensors, and miniaturization are converging to make possible a new generation of embedded and immersive technology. Greengard traces the origins of the IoT from the early days of personal computers and the Internet and examines how it creates the conceptual and practical framework for a connected world. He explores the industrial Internet and machine-to-machine communication, the basis for smart manufacturing and end-to-end supply chain visibility; the growing array of smart consumer devices and services—from Fitbit fitness wristbands to mobile apps for banking; the practical and technical challenges of building the IoT; and the risks of a connected world, including a widening digital divide and threats to privacy and security. Finally, he considers the long-term impact of the IoT on society, narrating an eye-opening "Day in the Life" of IoT connections circa 2025.

Auctions-Timothy P. Hubbard 2016-01-13 How auctions work, in theory and practice, with clear explanations and real-world examples that range from government procurement to eBay. Although it is among the oldest of market institutions, the auction is ubiquitous in today's economy, used for everything from government procurement to selling advertising on the Internet to course assignment at MIT's Sloan School. And yet beyond the small number of economists who specialize in the subject, few people understand how auctions really work. This concise, accessible, and engaging book explains both the theory and the practice of auctions. It describes the main auction formats and pricing rules, develops a simple model to explain bidder behavior, and provides a range of real-world

examples. The authors explain what constitutes an auction and how auctions can be modeled as games of asymmetric information—that is, games in which some players know something that other players do not. They characterize behavior in these strategic situations and maintain a focus on the real world by illustrating their discussions with examples that include not just auctions held by eBay and Sotheby's, but those used by Google, the U.S. Treasury, TaskRabbit, and charities. Readers will begin to understand how economists model auctions and how the rules of the auction shape bidder incentives. They will appreciate the role auctions play in our modern economy and understand why these selling mechanisms are so resilient.

Neuroplasticity-Moheb Costandi 2016-08-16 The real story of how our brains and nervous systems change throughout our lifetimes—with or without “brain training.” Fifty years ago, neuroscientists thought that a mature brain was fixed like a fly in amber, unable to change. Today, we know that our brains and nervous systems change throughout our lifetimes. This concept of neuroplasticity has captured the imagination of a public eager for self-improvement—and has inspired countless Internet entrepreneurs who peddle dubious “brain training” games and apps. In this book, Moheb Costandi offers a concise and engaging overview of neuroplasticity for the general reader, describing how our brains change continuously in response to our actions and experiences. Costandi discusses key experimental findings, and describes how our thinking about the brain has evolved over time. He explains how the brain changes during development, and the “synaptic pruning” that takes place before brain maturity. He shows that adult brains can grow new cells (citing, among many other studies, research showing that sexually mature male canaries learn a new song every year). He describes the kind of brain training that can bring about improvement in brain function. It's not gadgets and games that promise to “rewire your brain” but such sustained cognitive tasks as learning a musical instrument or a new language. (Costandi also notes that London cabbies increase their gray matter after rigorous training in their city's complicated streets.) He tells how brains compensate after stroke or injury; describes addiction and pain as maladaptive forms of neuroplasticity; and considers brain changes that accompany childhood, adolescence, parenthood, and aging. Each of our brains is custom-built. Neuroplasticity is at the heart of what makes us human.

The Metadata Handbook-Renée Register 2016-02-01 For book publishers large and small: the #1 guide to creating and distributing metadata for maximum sales. The Metadata Handbook shows how metadata works, enhancing findability, discoverability, and, of course, book sales. It introduces industry standards (think ONIX!) and best practices, and outlines the essential components for successful metadata creation and distribution. This handbook is a must for every publisher, both for print books and for ebooks. The new second edition is fully updated and expanded to include the most recent information on metadata standards, practices, and use in the publishing industry.

Computational Thinking-Peter J. Denning 2019-05-14 An introduction to computational thinking that traces a genealogy beginning centuries before the digital computer. A few decades into the digital era, scientists discovered that thinking in terms of computation made possible an entirely new way of organizing scientific investigation; eventually, every field had a computational branch: computational physics, computational biology, computational sociology. More recently, “computational thinking” has become part of the K-12 curriculum. But what is computational thinking? This volume in the MIT Press Essential Knowledge series offers an accessible overview, tracing a genealogy that begins centuries before digital computers and portraying computational thinking as pioneers of computing have described it. The authors explain that computational thinking (CT) is not a set of concepts for programming; it is a way of thinking that is honed through practice: the mental skills for designing computations to do jobs for us, and for explaining and interpreting the world as a complex of information processes. Mathematically trained experts (known as “computers”) who performed complex calculations as teams engaged in CT long before electronic computers. The authors identify six dimensions of today's highly developed CT—methods, machines, computing education, software engineering, computational science, and design—and cover each in a chapter. Along the way, they debunk inflated claims for CT and computation while making clear the power of CT in all its complexity and multiplicity.

The Conscious Mind-Zoltan Torey 2014-08-08 An account of the emergence of the mind: how the brain acquired self-awareness, functional autonomy, the ability to think, and the power of speech. How did the human mind emerge from the collection of neurons that makes up the brain? How

did the brain acquire self-awareness, functional autonomy, language, and the ability to think, to understand itself and the world? In this volume in the Essential Knowledge series, Zoltan Torey offers an accessible and concise description of the evolutionary breakthrough that created the human mind. Drawing on insights from evolutionary biology, neuroscience, and linguistics, Torey reconstructs the sequence of events by which *Homo erectus* became *Homo sapiens*. He describes the augmented functioning that underpins the emergent mind—a new (“off-line”) internal response system with which the brain accesses itself and then forms a selection mechanism for mentally generated behavior options. This functional breakthrough, Torey argues, explains how the animal brain's “awareness” became self-accessible and reflective—that is, how the human brain acquired a conscious mind. Consciousness, unlike animal awareness, is not a unitary phenomenon but a composite process. Torey's account shows how protolanguage evolved into language, how a brain subsystem for the emergent mind was built, and why these developments are opaque to introspection. We experience the brain's functional autonomy, he argues, as free will. Torey proposes that once life began, consciousness had to emerge—because consciousness is the informational source of the brain's behavioral response. Consciousness, he argues, is not a newly acquired “quality,” “cosmic principle,” “circuitry arrangement,” or “epiphenomenon,” as others have argued, but an indispensable working component of the living system's manner of functioning.

Critical Thinking-Jonathan Haber 2020-04-07 How the concept of critical thinking emerged, how it has been defined, and how critical thinking skills can be taught. Critical thinking is regularly cited as an essential twenty-first century skill, the key to success in school and work. Given our propensity to believe fake news, draw incorrect conclusions, and make decisions based on emotion rather than reason, it might even be said that critical thinking is vital to the survival of a democratic society. But what, exactly, is critical thinking? In this volume in the MIT Press Essential Knowledge series, Jonathan Haber explains how the concept of critical thinking emerged, how it has been defined, and how critical thinking skills can be taught and assessed. Haber describes the term's origins in such disciplines as philosophy, psychology, and science. He examines the components of critical thinking, including structured thinking, language skills, background knowledge, and information literacy, along with such necessary intellectual traits as intellectual humility, empathy, and open-mindedness. He discusses how research has defined critical thinking, how elements of critical thinking have been taught for centuries, and how educators can teach critical thinking skills now. Haber argues that the most important critical thinking issue today is that not enough people are doing enough of it. Fortunately, critical thinking can be taught, practiced, and evaluated. This book offers a guide for teachers, students, and aspiring critical thinkers everywhere, including advice for educational leaders and policy makers on how to make the teaching and learning of critical thinking an educational priority and practical reality.

Self-Tracking-Gina Neff 2016-06-24 What happens when people turn their everyday experience into data: an introduction to the essential ideas and key challenges of self-tracking. People keep track. In the eighteenth century, Benjamin Franklin kept charts of time spent and virtues lived up to. Today, people use technology to self-track: hours slept, steps taken, calories consumed, medications administered. Ninety million wearable sensors were shipped in 2014 to help us gather data about our lives. This book examines how people record, analyze, and reflect on this data, looking at the tools they use and the communities they become part of. Gina Neff and Dawn Nafus describe what happens when people turn their everyday experience—in particular, health and wellness-related experience—into data, and offer an introduction to the essential ideas and key challenges of using these technologies. They consider self-tracking as a social and cultural phenomenon, describing not only the use of data as a kind of mirror of the self but also how this enables people to connect to, and learn from, others. Neff and Nafus consider what's at stake: who wants our data and why; the practices of serious self-tracking enthusiasts; the design of commercial self-tracking technology; and how self-tracking can fill gaps in the healthcare system. Today, no one can lead an entirely untracked life. Neff and Nafus show us how to use data in a way that empowers and educates.

Cynicism-Ansgar Allen 2020-04-14 A short history of cynicism, from the fearless speech of the ancient Greeks to the jaded negativity of the present. Everyone's a cynic, yet few will admit it. Today's cynics excuse themselves half-heartedly—“I hate to be a cynic, but...”—before making their pronouncements. Narrowly opportunistic, always on the take, contemporary cynicism has nothing positive to contribute. The Cynicism of the ancient Greeks, however, was very different. This Cynicism was a marginal philosophy practiced by a small band of eccentrics. Bold and shameless, it

was committed to transforming the values on which civilization depends. In this volume of the MIT Press Essential Knowledge series, Ansgar Allen charts the long history of cynicism, from the “fearless speech” of Greek Cynics in the fourth century BCE to the contemporary cynic's lack of social and political convictions. Allen describes ancient Cynicism as an improvised philosophy and a way of life disposed to scandalize contemporaries, subjecting their cultural commitments to derision. He chronicles the subsequent “purification” of Cynicism by the Stoics; Renaissance and Enlightenment appropriations of Cynicism, drawing on the writings of Shakespeare, Rabelais, Rousseau, de Sade, and others; and the transition from Cynicism (the philosophy) to cynicism (the modern attitude), exploring contemporary cynicism from the perspectives of its leftist, liberal, and conservative critics. Finally, he considers the possibility of a radical cynicism that admits and affirms the danger it poses to contemporary society.

Data Science-John D. Kelleher 2018-04-13 A concise introduction to the emerging field of data science, explaining its evolution, relation to machine learning, current uses, data infrastructure issues, and ethical challenges. The goal of data science is to improve decision making through the analysis of data. Today data science determines the ads we see online, the books and movies that are recommended to us online, which emails are filtered into our spam folders, and even how much we pay for health insurance. This volume in the MIT Press Essential Knowledge series offers a concise introduction to the emerging field of data science, explaining its evolution, current uses, data infrastructure issues, and ethical challenges. It has never been easier for organizations to gather, store, and process data. Use of data science is driven by the rise of big data and social media, the development of high-performance computing, and the emergence of such powerful methods for data analysis and modeling as deep learning. Data science encompasses a set of principles, problem definitions, algorithms, and processes for extracting non-obvious and useful patterns from large datasets. It is closely related to the fields of data mining and machine learning, but broader in scope. This book offers a brief history of the field, introduces fundamental data concepts, and describes the stages in a data science project. It considers data infrastructure and the challenges posed by integrating data from multiple sources, introduces the basics of machine learning, and discusses how to link machine learning expertise with real-world problems. The book also reviews ethical and legal issues, developments in data regulation, and computational approaches to preserving privacy. Finally, it considers the future impact of data science and offers principles for success in data science projects.

The Joy of Search-Daniel M. Russell 2019-09-24 How to be a great online searcher, demonstrated with step-by-step searches for answers to a series of intriguing questions (for example, “Is that plant poisonous?”). We all know how to look up something online by typing words into a search engine. We do this so often that we have made the most famous search engine a verb: we Google it—“Japan population” or “Nobel Peace Prize” or “poison ivy” or whatever we want to know. But knowing how to Google something doesn't make us search experts; there's much more we can do to access the massive collective knowledge available online. In *The Joy of Search*, Daniel Russell shows us how to be great online researchers. We don't have to be computer geeks or a scholar searching out obscure facts; we just need to know some basic methods. Russell demonstrates these methods with step-by-step searches for answers to a series of intriguing questions—from “what is the wrong side of a towel?” to “what is the most likely way you will die?” Along the way, readers will discover essential tools for effective online searches—and learn some fascinating facts and interesting stories. Russell explains how to frame search queries so they will yield information and describes the best ways to use such resources as Google Earth, Google Scholar, Wikipedia, and Wikimedia. He shows when to put search terms in double quotes, how to use the operator (*), why metadata is important, and how to triangulate information from multiple sources. By the end of this engaging journey of discovering, readers will have the definitive answer to why the best online searches involve more than typing a few words into Google.

Collaborative Society-Dariusz Jemielniak 2020-02-18 How networked technology enables the emergence of a new collaborative society. Humans are hard-wired for collaboration, and new technologies of communication act as a super-amplifier of our natural collaborative mindset. This volume in the MIT Press Essential Knowledge series examines the emergence of a new kind of social collaboration enabled by networked technologies. This new collaborative society might be characterized as a series of services and startups that enable peer-to-peer exchanges and interactions through technology. Some believe that the economic aspects of the new collaboration have the potential to make society more equitable; others see collaborative communities based on sharing as a cover for social injustice

and user exploitation. The book covers the “sharing economy,” and the hijacking of the term by corporations; different models of peer production, and motivations to participate; collaborative media production and consumption, the definitions of “amateur” and “professional,” and the power of memes; hactivism and social movements, including Anonymous and anti-ACTA protest; collaborative knowledge creation, including citizen science; collaborative self-tracking; and internet-mediated social relations, as seen in the use of Instagram, Snapchat, and Tinder. Finally, the book considers the future of these collaborative tendencies and the disruptions caused by fake news, bots, and other challenges.

3D Printing-John M. Jordan 2019-03-12 An accessible introduction to 3D printing that outlines the additive manufacturing process, industrial and household markets, and emerging uses. The use of 3D printing—digitally controlled additive manufacturing—is growing rapidly. Consumer models of 3D printers allow people to fabricate small plastic objects, from cabinet knobs to wedding cake toppers. Industrial uses are becoming widespread, as businesses use the technology to fabricate prototypes, spare parts, custom-fitted prosthetics, and other plastic or metal items, often at lower cost and with greater efficiency than standard manufacturing. In this volume in the MIT Press Essential Knowledge series, John Jordan offers an accessible introduction to 3D printing, describing the printing process, industrial and household markets, and emerging uses. Jordan outlines the stages of 3D printing, from idea to software model to a printable file that slices the planned object into printable layers to the finished object itself. He describes additive technologies, consumer 3D printing in homes and schools, mass customization (which can create tens of millions of unique items), and industrial uses. Jordan explains that although 3D printers have not become the ubiquitous home appliance once predicted, they are making inroads into mass markets; and he discusses the business factors that may hinder industry adoption of 3D printing technologies. He considers the possible unintended consequences of 3D printing on jobs, as companies scramble to find employees with an uncommon skill set; on business models and supply chains, as manufacturing is decentralized; and on patent law, as machines can be programmed to copy protected property. Finally, Jordan looks at new and emerging uses, including bioprinting, building construction, and micromachines.

Macroeconomics-Felipe Larrain B. 2020-03-03 An accessible introduction to the basics of macroeconomics and how it affects the local and global economies. Macroeconomics takes a broad perspective on the economy of a country or region; it studies economic changes in the aggregate, collecting data on production, unemployment, inflation, consumption, investment, trade, and other aspects of national and international economic life. Policymakers depend on macroeconomists' knowledge when making decisions about such issues as taxes and the public budget, monetary and exchange rate policies, and trade policies—all of which, in turn, affect decisions made by individuals and businesses. This volume in the MIT Press Essential Knowledge series offers an introduction to the basics of macroeconomics accessible to the noneconomist. Readers will gain the tools to interpret such economic events as the 2008 financial meltdown, the subsequent euro crisis, and the current protectionist dynamics seen in some developed countries. The author, an academic economist and two-time Chilean Finance Minister, devotes a substantial part of his analysis to economic development, explaining why some countries achieve continuing economic growth while others become stagnant. He discusses the links between economic activity and employment; employment and unemployment rates; factors behind economic growth; money, inflation, and exchange rate systems; fiscal deficits; balance of payment crises; consumption and savings; investment decisions; fiscal policy; and the process of globalization and its macroeconomic implications.

Recommendation Engines-Michael Schrage 2020 "How does Netflix know just what to suggest you watch next? How does Amazon determine what a "customer like you" has also purchased? The answer is recommender systems, the technological concept that lies at the heart of most of the successful companies in the digital economy. Michael Schrage starts with the origins of recommender systems, which go back further than you think (see: the Oracle at Delphi for one of history's earliest recommenders), and a history of the first companies to harness recommendations. He then discusses the technology behind how recommenders work: the AI and machine learning algorithms that power these recommender platforms. Next he discusses the role of user experience, and how recommender systems are designed, and how design choices function as nudges to make certain recommendations more salient than others. He explores three case studies: Spotify, Bytedance, and Stitch Fix, looking at how recommenders can create new business solutions and how algorithms can go beyond curation to content creation. The concluding chapter on the future of recommender systems is perhaps the most enlightening. Moving away from

technology and business, Schrage embraces the philosophical, probing the role of free will in a world mediated by recommender systems (a recommendation inherently offers a choice; without the element of choice, any digital manipulation of our preferences cannot truly be called a "recommendation"), and exploring the role of recommender systems as a means of improving the self. In the vein of *Free Will*, this book presents the essential information while revealing the author's point of view. Schrage wants to push our understanding of recommender systems beyond the technological, to understand what societal role they play and what opportunities they offer now and in the future"--

Understanding Beliefs-Nils J. Nilsson 2014-08-01 What beliefs are, what they do for us, how we come to hold them, and how to evaluate them. Our beliefs constitute a large part of our knowledge of the world. We have beliefs about objects, about culture, about the past, and about the future. We have beliefs about other people, and we believe that they have beliefs as well. We use beliefs to predict, to explain, to create, to console, to entertain. Some of our beliefs we call theories, and we are extraordinarily creative at constructing them. Theories of quantum mechanics, evolution, and relativity are examples. But so are theories about astrology, alien abduction, guardian angels, and reincarnation. All are products (with varying degrees of credibility) of fertile minds trying to find explanations for observed phenomena. In this book, Nils Nilsson examines beliefs: what they do for us, how we come to hold them, and how to evaluate them. We should evaluate our beliefs carefully, Nilsson points out, because they influence so many of our actions and decisions. Some of our beliefs are more strongly held than others, but all should be considered tentative and changeable. Nilsson shows that beliefs can be quantified by probability, and he describes networks of beliefs in which the probabilities of some beliefs affect the probabilities of others. He argues that we can evaluate our beliefs by adapting some of the practices of the scientific method and by consulting expert opinion. And he warns us about "belief traps"—holding onto beliefs that wouldn't survive critical evaluation. The best way to escape belief traps, he writes, is to expose our beliefs to the reasoned criticism of others.

Intellectual Property Strategy-John G. Palfrey 2012 How a flexible and creative approach to intellectual property can help an organization accomplish goals ranging from building market share to expanding an industry. Most managers leave intellectual property issues to the legal department, unaware that an organization's intellectual property can help accomplish a range of management goals, from accessing new markets to improving existing products to generating new revenue streams. In this book, intellectual property expert and Harvard Law School professor John Palfrey offers a short briefing on intellectual property strategy for corporate managers and nonprofit administrators. Palfrey argues for strategies that go beyond the traditional highly restrictive "sword and shield" approach, suggesting that flexibility and creativity are essential to a profitable long-term intellectual property strategy--especially in an era of changing attitudes about media. Intellectual property, writes Palfrey, should be considered a key strategic asset class. Almost every organization has an intellectual property portfolio of some value and therefore the need for an intellectual property strategy. A brand, for example, is an important form of intellectual property, as is any information managed and produced by an organization. Palfrey identifies the essential areas of intellectual property--patent, copyright, trademark, and trade secret--and describes strategic approaches to each in a variety of organizational contexts, based on four basic steps. The most innovative organizations employ multiple intellectual property approaches, depending on the situation, asking hard, context-specific questions. By doing so, they achieve both short- and long-term benefits while positioning themselves for success in the global information economy.

Sustainability-Kent E. Portney 2015-10-09 A concise and accessible examination of sustainability in a range of contemporary contexts, from economic development to government policy. The word "sustainability" has been connected to everything from a certain kind of economic development to corporate promises about improved supply sourcing. But despite the apparent ubiquity of the term, the concept of sustainability has come to mean a number of specific things. In this accessible guide to the meanings of sustainability, Kent Portney describes the evolution of the idea and examines its application in a variety of contemporary contexts—from economic growth and consumption to government policy and urban planning. Portney takes as his starting point the 1987 definition by the World Commission on Environment and Development of sustainability as economic development activity that "meets the needs of the present without compromising the ability of future generations to meet their own needs." At its heart, Portney explains, sustainability focuses on the use and depletion of natural resources. It is not the same as environmental protection or natural resource conservation; it is more about finding some sort of steady state so

that the earth can support both human population and economic growth. Portney looks at political opposition to the promotion of sustainability, which usually questions the need for sustainability or calls its costs unacceptable; collective and individual consumption of material goods and resources and to what extent they must be curtailed to achieve sustainability; the role of the private sector, and the co-opting of sustainability by corporations; government policy on sustainability at the international, national, and subnational levels; and how cities could become models for sustainability action.

Deep Learning-John D. Kelleher 2019-09-10 An accessible introduction to the artificial intelligence technology that enables computer vision, speech recognition, machine translation, and driverless cars. Deep learning is an artificial intelligence technology that enables computer vision, speech recognition in mobile phones, machine translation, AI games, driverless cars, and other applications. When we use consumer products from Google, Microsoft, Facebook, Apple, or Baidu, we are often interacting with a deep learning system. In this volume in the MIT Press Essential Knowledge series, computer scientist John Kelleher offers an accessible and concise but comprehensive introduction to the fundamental technology at the heart of the artificial intelligence revolution. Kelleher explains that deep learning enables data-driven decisions by identifying and extracting patterns from large datasets; its ability to learn from complex data makes deep learning ideally suited to take advantage of the rapid growth in big data and computational power. Kelleher also explains some of the basic concepts in deep learning, presents a history of advances in the field, and discusses the current state of the art. He describes the most important deep learning architectures, including autoencoders, recurrent neural networks, and long short-term networks, as well as such recent developments as Generative Adversarial Networks and capsule networks. He also provides a comprehensive (and comprehensible) introduction to the two fundamental algorithms in deep learning: gradient descent and backpropagation. Finally, Kelleher considers the future of deep learning—major trends, possible developments, and significant challenges.

Data Feminism-Catherine D'Ignazio 2020-03-31 A new way of thinking about data science and data ethics that is informed by the ideas of intersectional feminism. Today, data science is a form of power. It has been used to expose injustice, improve health outcomes, and topple governments. But it has also been used to discriminate, police, and surveil. This potential for good, on the one hand, and harm, on the other, makes it essential to ask: Data science by whom? Data science for whom? Data science with whose interests in mind? The narratives around big data and data science are overwhelmingly white, male, and techno-heroic. In *Data Feminism*, Catherine D'Ignazio and Lauren Klein present a new way of thinking about data science and data ethics—one that is informed by intersectional feminist thought. Illustrating data feminism in action, D'Ignazio and Klein show how challenges to the male/female binary can help challenge other hierarchical (and empirically wrong) classification systems. They explain how, for example, an understanding of emotion can expand our ideas about effective data visualization, and how the concept of invisible labor can expose the significant human efforts required by our automated systems. And they show why the data never, ever "speak for themselves." *Data Feminism* offers strategies for data scientists seeking to learn how feminism can help them work toward justice, and for feminists who want to focus their efforts on the growing field of data science. But *Data Feminism* is about much more than gender. It is about power, about who has it and who doesn't, and about how those differentials of power can be challenged and changed.

Phenomenology-Chad Engelland 2020 "A short, reader-friendly introduction to perhaps the most influential philosophical school of the 20th century -- phenomenology"--

Crowdsourcing-Daren C. Brabham 2013-05-10 A concise introduction to crowdsourcing that goes beyond social media buzzwords to explain what crowdsourcing really is and how it works. Ever since the term "crowdsourcing" was coined in 2006 by Wired writer Jeff Howe, group activities ranging from the creation of the Oxford English Dictionary to the choosing of new colors for M&Ms have been labeled with this most buzz-generating of media buzzwords. In this accessible but authoritative account, grounded in the empirical literature, Daren Brabham explains what crowdsourcing is, what it is not, and how it works. Crowdsourcing, Brabham tells us, is an online, distributed problem solving and production model that leverages the collective intelligence of online communities for specific purposes set forth by a crowdsourcing organization—corporate, government, or volunteer. Uniquely, it combines a bottom-up, open, creative process with top-down organizational goals. Crowdsourcing is not open source production, which lacks the top-down component; it is not a market

research survey that offers participants a short list of choices; and it is qualitatively different from predigital open innovation and collaborative production processes, which lacked the speed, reach, rich capability, and lowered barriers to entry enabled by the Internet. Brabham describes the intellectual roots of the idea of crowdsourcing in such concepts as collective intelligence, the wisdom of crowds, and distributed computing. He surveys the major issues in crowdsourcing, including crowd motivation, the misconception of the amateur participant, crowdfunding, and the danger of “crowdsplotation” of volunteer labor, citing real-world examples from Threadless, InnoCentive, and other organizations. And he considers the future of crowdsourcing in both theory and practice, describing its possible roles in journalism, governance, national security, and science and health.

Extremism-J. M. Berger 2018-08-28 What extremism is, how extremist ideologies are constructed, and why extremism can escalate into violence. A rising tide of extremist movements threaten to destabilize civil societies around the globe. It has never been more important to understand extremism, yet the dictionary definition—a logical starting point in a search for understanding—tells us only that extremism is “the quality or state of being extreme.” In this volume in the MIT Press Essential Knowledge series, J. M. Berger offers a nuanced introduction to extremist movements, explaining what extremism is, how extremist ideologies are constructed, and why extremism can escalate into violence. Berger shows that although the ideological content of extremist movements varies widely, there are common structural elements. Berger, an expert on extremist movements and terrorism, explains that extremism arises from a perception of “us versus them,” intensified by the conviction that the success of “us” is inseparable from hostile acts against “them.” Extremism differs from ordinary unpleasantness—run-of-the-mill hatred and racism—by its sweeping rationalization of an insistence on violence. Berger illustrates his argument with case studies and examples from around the world and throughout history, from the destruction of Carthage by the Romans—often called “the first genocide”—to the apocalyptic jihadism of Al Qaeda, America's new “alt-right,” and the anti-Semitic conspiracy tract *The Protocols of the Elders of Zion*. He describes the evolution of identity movements, individual and group radicalization, and more. If we understand the causes of extremism, and the common elements of extremist movements, Berger says, we will be more effective in countering it.

Foundations of Machine Learning-Mehryar Mohri 2012-08-17 This graduate-level textbook introduces fundamental concepts and methods in machine learning. It describes several important modern algorithms, provides the theoretical underpinnings of these algorithms, and illustrates key aspects for their application. The authors aim to present novel theoretical tools and concepts while giving concise proofs even for relatively

advanced topics. *Foundations of Machine Learning* fills the need for a general textbook that also offers theoretical details and an emphasis on proofs. Certain topics that are often treated with insufficient attention are discussed in more detail here; for example, entire chapters are devoted to regression, multi-class classification, and ranking. The first three chapters lay the theoretical foundation for what follows, but each remaining chapter is mostly self-contained. The appendix offers a concise probability review, a short introduction to convex optimization, tools for concentration bounds, and several basic properties of matrices and norms used in the book. The book is intended for graduate students and researchers in machine learning, statistics, and related areas; it can be used either as a textbook or as a reference text for a research seminar.

Food-Fabio Parasecoli 2019-05-21 A consumer's guide to the food system, from local to global: our part as citizens in the interconnected networks, institutions, and organizations that enable our food choices. Everybody eats. We may even consider ourselves experts on the topic, or at least Instagram experts. But are we aware that the shrimp in our freezer may be farmed and frozen in Vietnam, the grapes in our fruit bowl shipped from Chile, and the coffee in our coffee maker grown in Nicaragua, roasted in Germany, and distributed in Canada? Whether we know it or not, every time we shop for food, cook, and eat, we connect ourselves to complex supply networks, institutions, and organizations that enable our food choices. Even locavores may not know the whole story of the produce they buy at the farmers market. In this volume in the MIT Press Essential Knowledge series, food writer and scholar Fabio Parasecoli offers a consumer's guide to the food system, from local to global. Parasecoli describes a system made up of open-ended, shifting, and unstable networks rather than well-defined chains; considers healthy food and the contradictory advice about it consumers receive; discusses food waste and the implications for sustainability; explores food technologies (and “culinary luddism”); and examines hunger and food insecurity in both developing and developed countries. Parasecoli reminds us that we are not only consumers but also citizens, and as citizens we have more power to improve the food system than we do by our individual food choices.

Robots-John M. Jordan 2016-10-14 History/background/etc. -- Robots in culture -- State of the macro field (AI/general robotics) -- Warfare -- Autonomous vehicles -- Robots and economics -- How humans and robots coexist -- Future directions