Hello World How Algorithms Will Define Our Future And Why We Should Learn To Live With It

Right here, we have countless book Hello World How Algorithms Will Define Our Future And Why We Should Learn To Live With It and collections to check out. We additionally meet the expense of variant types and then type of the books to browse. The suitable book, fiction, history, novel, scientific research, as capably as various new sorts of books are readily comprehensible here.

As this Hello World How Algorithms Will Define Our Future And Why We Should Learn To Live With It, it ends taking place beast one of the favored book Hello World How Algorithms Will Define Our Future And Why We Should Learn To Live With It collections that we have. This is why you remain in the best website to look the incredible books to have.

Probably Approximately Correct Leslie Valiant 2013-06-04 We have effective theories for very few things. Gravity is one, electromagnetism another. But for most things—whether as mundane as finding a mate or as major as managing an economy—our theories are lousy or nonexistent. Fortunately, we don't need them, any more than a fish needs a theory of water to swim; we're able to muddle through. But how do we do it? In Probably Approximately Correct, computer scientist Leslie Valiant presents a theory of the theoryless. The key is “probably approximately correct” learning, Valiant's model of how anything can act without needing to understand what is going on. The study of probably approximately correct algorithms reveals the shared computational nature of evolution and cognition, indicates

how computers might possess authentic intelligence, and shows why hacking a problem can be far more effective than developing a theory to explain it. After all, finding a mate is a lot more satisfying than finding a theory of mating. Offering an elegant, powerful model that encompasses all of life's complexity, Probably Approximately Correct will revolutionize the way we look at the universe's greatest mysteries.
The Master Algorithm Pedro Domingos 2015-09-22 A spell-binding quest for the one algorithm capable of deriving all knowledge from data, including a cure for cancer Society is changing, one learning algorithm at a time, from search engines to online dating, personalized medicine to predicting the stock market. But learning algorithms are not just about Big Data - these algorithms take raw data and make it useful by creating more algorithms. This is something new under the sun: a technology that builds itself. In The Master Algorithm, Pedro Domingos reveals how machine learning is remaking business, politics, science and war. And he takes us on an awe-inspiring quest to find 'The Master Algorithm' - a universal learner capable of deriving all knowledge from data.
How to Stay Smart in a Smart World Gerd Gigerenzer 2022-03-03 Is more data always better? Do algorithms really make better decisions than humans? Can we stay in control in an increasingly automated world? Drawing on decades of research into decision-making under uncertainty, Gerd Gigerenzer makes a compelling case for the enduring importance of human discernment in an automated world that we are told can - and will - replace our efforts. From dating apps and self-driving cars to facial recognition and the justice system, the increasing presence of AI has been widely championed - but there are limitations and risks too. Humans are the greatest source of uncertainty in these situations and Gigerenzer shows how, when people are involved, trust in complex algorithms can lead to illusions of certainty that become a recipe for disaster. Filled with practical examples and cutting-edge research, How to Stay Smart in a Smart World examines the growing role of AI at all levels of daily life with refreshing clarity. This book is a liferaft in a sea of information and an urgent invitation to actively shape the digital world in which we want to live.
Legal Data and Information in Practice Sarah A. Sutherland 2022-01-

31 Legal Data and Information in Practice provides readers with an understanding of how to facilitate the acquisition, management, and use of legal data in organizations such as libraries, courts, governments, universities, and start-ups. Presenting a synthesis of information about legal data that will furnish readers with a thorough understanding of the topic, the book also explains why it is becoming crucial that data analysis be integrated into decision-making in the legal space. Legal organizations are looking at how to develop data-driven insights for a variety of purposes and it is, as Sutherland shows, vital that they have the necessary skills to facilitate this work. This book will assist in this endeavour by providing an international perspective on the issues affecting access to legal data and clearly describing methods of obtaining and evaluating it. Sutherland also incorporates advice about how to critically approach data analysis. Legal Data and Information in Practice will be essential reading for those in the law library community who are based in English-speaking countries with a common law tradition. The book will also be useful to those with a general interest in legal data, including students, academics engaged in the study of information science and law.
The Mathematics of Love Hannah Fry 2015-02-03 In this must-have for anyone who wants to better understand their love life, a mathematician pulls back the curtain and reveals the hidden patterns—from dating sites to divorce, sex to marriage—behind the rituals of love. The roller coaster of romance is hard to quantify; defining how lovers might feel from a set of simple equations is impossible. But that doesn't mean that mathematics isn't a crucial tool for understanding love. Love, like most things in life, is full of patterns. And mathematics is ultimately the study of patterns—from predicting the weather to the fluctuations of the stock market, the movement of planets or the growth of cities. These patterns twist and turn and warp and evolve just as the rituals of love do. In The Mathematics of Love, Dr. Hannah Fry takes the reader on a fascinating journey through the patterns that define our love lives, applying mathematical formulas to the most common yet complex questions pertaining to love: What's the chance of finding love? What's the probability that it will last? How do online dating algorithms work, exactly? Can game theory help us decide who to approach in a bar? At what point in your dating life

should you settle down? From evaluating the best strategies for online dating to defining the nebulous concept of beauty, Dr. Fry proves—with great insight, wit, and fun—that math is a surprisingly useful tool to negotiate the complicated, often baffling, sometimes infuriating, always interesting, mysteries of love.

Mastering Algorithms with Perl Jarkko Hietaniemi 1999-08-18 Many programmers would love to use Perl for projects that involve heavy lifting, but miss the many traditional algorithms that textbooks teach for other languages. Computer scientists have identified many techniques that a wide range of programs need, such as: Fuzzy pattern matching for text (identify misspellings!) Finding correlations in data Game-playing algorithms Predicting phenomena such as Web traffic Polynomial and spline fitting Using algorithms explained in this book, you too can carry out traditional programming tasks in a high-powered, efficient, easy-to-maintain manner with Perl.This book assumes a basic understanding of Perl syntax and functions, but not necessarily any background in computer science. The authors explain in a readable fashion the reasons for using various classic programming techniques, the kind of applications that use them, and -- most important -- how to code these algorithms in Perl.If you are an amateur programmer, this book will fill you in on the essential algorithms you need to solve problems like an expert. If you have already learned algorithms in other languages, you will be surprised at how much different (and often easier) it is to implement them in Perl. And yes, the book even has the obligatory fractal display program.There have been dozens of books on programming algorithms, some of them excellent, but never before has there been one that uses Perl.The authors include the editor of The Perl Journal and master librarian of CPAN; all are contributors to CPAN and have archived much of the code in this book there."This book was so exciting I lost sleep reading it." Tom Christiansen

Automate This Christopher Steiner 2012-08-30 The rousing story of the last gasp of human agency and how today’s best and brightest minds are endeavoring to put an end to it. It used to be that to diagnose an illness, interpret legal documents, analyze foreign policy, or write a newspaper article you needed a human being with specific skills—and maybe an advanced degree or two. These days, high-

level tasks are increasingly being handled by algorithms that can do precise work not only with speed but also with nuance. These “bots” started with human programming and logic, but now their reach extends beyond what their creators ever expected. In this fascinating, frightening book, Christopher Steiner tells the story of how algorithms took over—and shows why the “bot revolution” is about to spill into every aspect of our lives, often silently, without our knowledge. The May 2010 “Flash Crash” exposed Wall Street’s reliance on trading bots to the tune of a 998-point market drop and $1 trillion in vanished market value. But that was just the beginning. In Automate This, we meet bots that are driving cars, penning haiku, and writing music mistaken for Bach’s. They listen in on our customer service calls and figure out what Iran would do in the event of a nuclear standoff. There are algorithms that can pick out the most cohesive crew of astronauts for a space mission or identify the next Jeremy Lin. Some can even ingest statistics from baseball games and spit out pitch-perfect sports journalism indistinguishable from that produced by humans. The interaction of man and machine can make our lives easier. But what will the world look like when algorithms control our hospitals, our roads, our culture, and our national security? What hap-pens to businesses when we automate judgment and eliminate human instinct? And what role will be left for doctors, lawyers, writers, truck drivers, and many others? Who knows—maybe there’s a bot learning to do your job this minute.

The Formula Luke Dormehl 2014-11-04 A fascinating guided tour of the complex, fast-moving, and influential world of algorithms—what they are, why they’re such powerful predictors of human behavior, and where they’re headed next. Algorithms exert an extraordinary level of influence on our everyday lives - from dating websites and financial trading floors, through to online retailing and internet searches - Google's search algorithm is now a more closely guarded commercial secret than the recipe for Coca-Cola. Algorithms follow a series of instructions to solve a problem and will include a strategy to produce the best outcome possible from the options and permutations available. Used by scientists for many years and applied in a very specialized way they are now increasingly employed to process the vast amounts of data being generated, in investment banks, in the

movie industry where they are used to predict success or failure at the box office and by social scientists and policy makers. What if everything in life could be reduced to a simple formula? What if numbers were able to tell us which partners we were best matched with – not just in terms of attractiveness, but for a long-term committed marriage? Or if they could say which films would be the biggest hits at the box office, and what changes could be made to those films to make them even more successful? Or even who is likely to commit certain crimes, and when? This may sound like the world of science fiction, but in fact it is just the tip of the iceberg in a world that is increasingly ruled by complex algorithms and neural networks. In The Formula, Luke Dormehl takes readers inside the world of numbers, asking how we came to believe in the all-conquering power of algorithms; introducing the mathematicians, artificial intelligence experts and Silicon Valley entrepreneurs who are shaping this brave new world, and ultimately asking how we survive in an era where numbers can sometimes seem to create as many problems as they solve.

A Human's Guide to Machine Intelligence Kartik Hosanagar 2019-03-12 A Wharton professor and tech entrepreneur examines how algorithms and artificial intelligence are starting to run every aspect of our lives, and how we can shape the way they impact us Through the technology embedded in almost every major tech platform and every web-enabled device, algorithms and the artificial intelligence that underlies them make a staggering number of everyday decisions for us, from what products we buy, to where we decide to eat, to how we consume our news, to whom we date, and how we find a job. We've even delegated life-and-death decisions to algorithms--decisions once made by doctors, pilots, and judges. In his new book, Kartik Hosanagar surveys the brave new world of algorithmic decision-making and reveals the potentially dangerous biases they can give rise to as they increasingly run our lives. He makes the compelling case that we need to arm ourselves with a better, deeper, more nuanced understanding of the phenomenon of algorithmic thinking. And he gives us a route in, pointing out that algorithms often think a lot like their creators--that is, like you and me. Hosanagar draws on his experiences designing algorithms professionally--as well as on

history, computer science, and psychology--to explore how algorithms work and why they occasionally go rogue, what drives our trust in them, and the many ramifications of algorithmic decision-making. He examines episodes like Microsoft's chatbot Tay, which was designed to converse on social media like a teenage girl, but instead turned sexist and racist; the fatal accidents of self-driving cars; and even our own common, and often frustrating, experiences on services like Netflix and Amazon. A Human's Guide to Machine Intelligence is an entertaining and provocative look at one of the most important developments of our time and a practical user's guide to this first wave of practical artificial intelligence.

Handbook of Memetic Algorithms Ferrante Neri 2011-10-29 Memetic Algorithms (MAs) are computational intelligence structures combining multiple and various operators in order to address optimization problems. The combination and interaction amongst operators evolves and promotes the diffusion of the most successful units and generates an algorithmic behavior which can handle complex objective functions and hard fitness landscapes. “Handbook of Memetic Algorithms” organizes, in a structured way, all the the most important results in the field of MAs since their earliest definition until now. A broad review including various algorithmic solutions as well as successful applications is included in this book. Each class of optimization problems, such as constrained optimization, multi-objective optimization, continuous vs combinatorial problems, uncertainties, are analysed separately and, for each problem, memetic recipes for tackling the difficulties are given with some successful examples. Although this book contains chapters written by multiple authors, a great attention has been given by the editors to make it a compact and smooth work which covers all the main areas of computational intelligence optimization. It is not only a necessary read for researchers working in the research area, but also a useful handbook for practitioners and engineers who need to address real-world optimization problems. In addition, the book structure makes it an interesting work also for graduate students and researchers is related fields of mathematics and computer science.

Learning JavaScript Data Structures and Algorithms Loiane Groner 2016-06-23 Hone your skills by learning classic data structures and

algorithms in JavaScript About This Book Understand common data structures and the associated algorithms, as well as the context in which they are used. Master existing JavaScript data structures such as array, set and map and learn how to implement new ones such as stacks, linked lists, trees and graphs. All concepts are explained in an easy way, followed by examples. Who This Book Is For If you are a student of Computer Science or are at the start of your technology career and want to explore JavaScript's optimum ability, this book is for you. You need a basic knowledge of JavaScript and programming logic to start having fun with algorithms. What You Will Learn Declare, initialize, add, and remove items from arrays, stacks, and queues Get the knack of using algorithms such as DFS (Depth-first Search) and BFS (Breadth-First Search) for the most complex data structures Harness the power of creating linked lists, doubly linked lists, and circular linked lists Store unique elements with hash tables, dictionaries, and sets Use binary trees and binary search trees Sort data structures using a range of algorithms such as bubble sort, insertion sort, and quick sort In Detail This book begins by covering basics of the JavaScript language and introducing ECMAScript 7, before gradually moving on to the current implementations of ECMAScript 6. You will gain an in-depth knowledge of how hash tables and set data structure functions, as well as how trees and hash maps can be used to search files in a HD or represent a database. This book is an accessible route deeper into JavaScript. Graphs being one of the most complex data structures you'll encounter, we'll also give you a better understanding of why and how graphs are largely used in GPS navigation systems in social networks. Toward the end of the book, you'll discover how all the theories presented by this book can be applied in real-world solutions while working on your own computer networks and Facebook searches. Style and approach This book gets straight to the point, providing you with examples of how a data structure or algorithm can be used and giving you real-world applications of the algorithm in JavaScript. With real-world use cases associated with each data structure, the book explains which data structure should be used to achieve the desired results in the real world.

Python Data Structures and Algorithms Benjamin Baka 2017-05-30

Implement classic and functional data structures and algorithms using Python About This Book A step by step guide, which will provide you with a thorough discussion on the analysis and design of fundamental Python data structures. Get a better understanding of advanced Python concepts such as big-o notation, dynamic programming, and functional data structures. Explore illustrations to present data structures and algorithms, as well as their analysis, in a clear, visual manner. Who This Book Is For The book will appeal to Python developers. A basic knowledge of Python is expected. What You Will Learn Gain a solid understanding of Python data structures. Build sophisticated data applications. Understand the common programming patterns and algorithms used in Python data science. Write efficient robust code. In Detail Data structures allow you to organize data in a particular way efficiently. They are critical to any problem, provide a complete solution, and act like reusable code. In this book, you will learn the essential Python data structures and the most common algorithms. With this easy-to-read book, you will be able to understand the power of linked lists, double linked lists, and circular linked lists. You will be able to create complex data structures such as graphs, stacks and queues. We will explore the application of binary searches and binary search trees. You will learn the common techniques and structures used in tasks such as preprocessing, modeling, and transforming data. We will also discuss how to organize your code in a manageable, consistent, and extendable way. The book will explore in detail sorting algorithms such as bubble sort, selection sort, insertion sort, and merge sort. By the end of the book, you will learn how to build components that are easy to understand, debug, and use in different applications. Style and Approach The easy-to-read book with its fast-paced nature will improve the productivity of Python programmers and improve the performance of Python applications.

Life 3.0 Max Tegmark 2017-08-29 New York Times Best Seller How will Artificial Intelligence affect crime, war, justice, jobs, society and our very sense of being human? The rise of AI has the potential to transform our future more than any other technology—and there's nobody better qualified or situated to explore that future than Max Tegmark, an MIT professor who's helped mainstream research on

how to keep AI beneficial. How can we grow our prosperity through automation without leaving people lacking income or purpose? What career advice should we give today's kids? How can we make future AI systems more robust, so that they do what we want without crashing, malfunctioning or getting hacked? Should we fear an arms race in lethal autonomous weapons? Will machines eventually outsmart us at all tasks, replacing humans on the job market and perhaps altogether? Will AI help life flourish like never before or give us more power than we can handle? What sort of future do you want? This book empowers you to join what may be the most important conversation of our time. It doesn't shy away from the full range of viewpoints or from the most controversial issues—from superintelligence to meaning, consciousness and the ultimate physical limits on life in the cosmos.

Rutherford and Fry's Complete Guide to Absolutely Everything (Abridged) Adam Rutherford 2021-10-07 In Rutherford and Fry's comprehensive guidebook, they tell the complete story of the universe and absolutely everything in it – skipping over some of the boring parts. This is a celebration of the weirdness of the cosmos, the strangeness of humans and the fact that amid all the mess, we can somehow make sense of life. Our brains have evolved to tell us all sorts of things that feel intuitively right but just aren't true: the world looks flat, the stars seem fixed in the heavenly firmament, a day is 24 hours... This book is crammed full of tales of how stuff really works. With the power of science, Rutherford and Fry show us how to bypass our monkey-brains, taking us on a journey from the origin of time and space, via planets, galaxies, evolution, the dinosaurs, all the way into our minds, and wrestling with some truly head-scratching questions that only science can answer: What is time, and where does it come from? Why are animals the size and shape they are? What is a thought? How horoscopes work (Spoiler: they don't, but you think they do) Does my dog love me? Why nothing is truly round Do you need your eyes to see?

The Fear Index Robert Harris 2011-09-29 'Harris is a master of pace and entertainment' Observer 'Could scarcely be more of the moment' The Times Nothing spreads like fear . . . In the secretive inner circle of the ultra-rich, Alex Hoffmann is a legend. He has developed an

algorithm for playing the financial markets that generates billions of pounds - and feeds on panic. When one day his system is threatened by a terrifying intruder who breaches the elaborate security of his lakeside home, his life becomes a waking nightmare of violence and paranoia. But who is trying to destroy him? And is it already too late? 'There are moments when this book feels so up to date it could have been written next week . . . spookily exciting' Express

Rage Inside the Machine Robert Elliott Smith 2019-06-27 We live in a world increasingly ruled by technology; we seem as governed by technology as we do by laws and regulations. Frighteningly often, the influence of technology in and on our lives goes completely unchallenged by citizens and governments. We comfort ourselves with the soothing refrain that technology has no morals and can display no prejudice, and it's only the users of technology who distort certain aspects of it. But is this statement actually true? Dr Robert Smith thinks it is dangerously untrue in the modern era. Having worked in the field of artificial intelligence for over 30 years, Smith reveals the mounting evidence that the mechanical actors in our lives do indeed have, or at least express, morals: they're just not the morals of the progressive modern society that we imagined we were moving towards. Instead, as we are just beginning to see – in the US elections and Brexit to name but a few – there are increasing incidences of machine bigotry, greed and the crass manipulation of our basest instincts. It is easy to assume that these are the result of programmer prejudices or the product of dark forces manipulating the masses through the network of the Internet. But what if there is something more fundamental and explicitly mechanical at play, something inherent within technology itself? This book demonstrates how non-scientific ideas have been encoded deep into our technological infrastructure. Offering a rigorous, fresh perspective on how technology has brought us to this place, Rage Inside the Machine challenges the long-held assumption that technology is an apolitical and amoral force. Shedding light on little-known historical stories and investigating the complex connections between scientific philosophy, institutional prejudice and new technology, this book offers a new, honest and more truly scientific vision of ourselves.

Peter 2.0 Peter Scott-Morgan 2021-04-01 The incredible book behind

the primetime Channel 4 documentary, Peter: The Human Cyborg 'A remarkable account of what it means to be human and what technology can really achieve' Sunday Telegraph 'Peter's story is one of the most extraordinary you will ever hear. I urge people to read it' Stephen Fry 'A remarkable story . . . you're left desperate to take nothing for granted' Radio Times _____ Peter, a brilliant scientist, is told that he will lose everything he loves. His husband. His family. His friends. His ability to travel the world. All will be gone. But Peter will not give up. He vows that this will not be the end and instead seeks a completely new beginning . . . Peter has Motor Neurone Disease, a condition universally considered by doctors to be terminal. He is told it will destroy his nerve cells and that within about two years, it will take his life too. But, face-to-face with death, he decides there is another way. Using his background in science and technology, he navigates a new path, one that will enable him not just to survive, but to thrive. This is the astonishing true story about Peter Scott-Morgan: the first person to combine his very humanity with artificial intelligence and robotics to become a full Cyborg. His discovery means that his terminal diagnosis is negotiable, something that will rewrite the future. And change the world. By embracing love, life and hope rather than fear, tragedy and despair, he will become Peter 2.0. _____ 'Compelling . . . Scott-Morgan is a true one-off. It is in the telling of the love story, rather than the technical details of becoming a cyborg, that this book succeeds' The Times 'What's striking is Peter's constant optimism, bravery and his ability to find radical answers to problems that have confounded Britain's brightest minds' Daily Telegraph 'A soaring love story' Financial Times 'Fascinating and extremely moving' Sun

Head First Learn to Code Eric Freeman 2018-01-02 What will you learn from this book? It’s no secret the world around you is becoming more connected, more configurable, more programmable, more computational. You can remain a passive participant, or you can learn to code. With Head First Learn to Code you’ll learn how to think computationally and how to write code to make your computer, mobile device, or anything with a CPU do things for you. Using the Python programming language, you’ll learn step by step the core concepts of programming as well as many fundamental topics from computer

science, such as data structures, storage, abstraction, recursion, and modularity. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Learn to Code uses a visually rich format to engage your mind, rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multi-sensory learning experience is designed for the way your brain really works.

A Human Algorithm Flynn Coleman 2019-10-01 A groundbreaking narrative on the urgency of ethically designed AI and a guidebook to reimagining life in the era of intelligent technology. The Age of Intelligent Machines is upon us, and we are at a reflection point. The proliferation of fast–moving technologies, including forms of artificial intelligence akin to a new species, will cause us to confront profound questions about ourselves. The era of human intellectual superiority is ending, and we need to plan for this monumental shift. A Human Algorithm: How Artificial Intelligence Is Redefining Who We Are examines the immense impact intelligent technology will have on humanity. These machines, while challenging our personal beliefs and our socioeconomic world order, also have the potential to transform our health and well–being, alleviate poverty and suffering, and reveal the mysteries of intelligence and consciousness. International human rights attorney Flynn Coleman deftly argues that it is critical that we instill values, ethics, and morals into our robots, algorithms, and other forms of AI. Equally important, we need to develop and implement laws, policies, and oversight mechanisms to protect us from tech's insidious threats. To realize AI's transcendent potential, Coleman advocates for inviting a diverse group of voices to participate in designing our intelligent machines and using our moral imagination to ensure that human rights, empathy, and equity are core principles of emerging technologies. Ultimately, A Human Algorithm is a clarion call for building a more humane future and moving conscientiously into a new frontier of our own design. "[Coleman] argues that the algorithms of machine learning—if they are instilled with human ethics and values—could bring about a new era of enlightenment." —San Francisco Chronicle

Hello World Hannah Fry 2018-09-06 _____ 'One of the best books yet written on data and algorithms. . .deserves a place on

the bestseller charts.' (The Times) You are accused of a crime. Who would you rather determined your fate – a human or an algorithm? An algorithm is more consistent and less prone to error of judgement. Yet a human can look you in the eye before passing sentence. Welcome to the age of the algorithm, the story of a not-too-distant future where machines rule supreme, making important decisions – in healthcare, transport, finance, security, what we watch, where we go even who we send to prison. So how much should we rely on them? What kind of future do we want? Hannah Fry takes us on a tour of the good, the bad and the downright ugly of the algorithms that surround us. In Hello World she lifts the lid on their inner workings, demonstrates their power, exposes their limitations, and examines whether they really are an improvement on the humans they are replacing. A BBC RADIO 4: BOOK OF THE WEEK SHORTLISTED FOR THE 2018 BAILLIE GIFFORD PRIZE AND 2018 ROYAL SOCIETY SCIENCE BOOK PRIZE

Artificial Intelligence, Blockchain, and Virtual Worlds Joanna Penn 2020-11-29 Artificial Intelligence is already embedded in much of our daily lives and it's increasingly moving into realms that impact authors and the publishing industry. We need to embrace the opportunities and engage in conversations around possible threats in order to reinvent our industry for a very different future. The pandemic of 2020 has accelerated converging technologies and changed human behavior across the globe to favor digital business models. In this book, I discuss current technological and societal trends and consider the opportunities for authors and the publishing industry over the next decade. Writing in the age of AI, including Natural Language Generation models like GPT-3 Copyright law, Blockchain for smart contracts, and micro-payments AI-assisted translation Voice technologies, streaming and subscription Virtual worlds and augmented reality Global, digital, mobile. A wave of new writers. It's time to change our business model. If we embrace this wave of converging technology, we can create abundance in our industry, enabling new forms of creativity, growing the market with new products and experiences, and expanding revenue for the entire supply chain. We are creators. We turn ideas in our heads into books in the physical realm. We can use these technologies to surf the wave

of change and invent the decade ahead — together. I hope you will join me on the journey.

You Look Like a Thing and I Love You Janelle Shane 2019-11-05 As heard on NPR's "Science Friday," discover the book recommended by Malcolm Gladwell, Susan Cain, Daniel Pink, and Adam Grant: an "accessible, informative, and hilarious" introduction to the weird and wonderful world of artificial intelligence (Ryan North). "You look like a thing and I love you" is one of the best pickup lines ever . . . according to an artificial intelligence trained by scientist Janelle Shane, creator of the popular blog AI Weirdness. She creates silly AIs that learn how to name paint colors, create the best recipes, and even flirt (badly) with humans—all to understand the technology that governs so much of our daily lives. We rely on AI every day for recommendations, for translations, and to put cat ears on our selfie videos. We also trust AI with matters of life and death, on the road and in our hospitals. But how smart is AI really... and how does it solve problems, understand humans, and even drive self-driving cars? Shane delivers the answers to every AI question you've ever asked, and some you definitely haven't. Like, how can a computer design the perfect sandwich? What does robot-generated Harry Potter fan-fiction look like? And is the world's best Halloween costume really "Vampire Hog Bride"? In this smart, often hilarious introduction to the most interesting science of our time, Shane shows how these programs learn, fail, and adapt—and how they reflect the best and worst of humanity. You Look Like a Thing and I Love You is the perfect book for anyone curious about what the robots in our lives are thinking. "I can't think of a better way to learn about artificial intelligence, and I've never had so much fun along the way." —Adam Grant, New York Times bestselling author of Originals

What Algorithms Want Ed Finn 2017-03-10 The gap between theoretical ideas and messy reality, as seen in Neal Stephenson, Adam Smith, and Star Trek. We depend on—we believe in—algorithms to help us get a ride, choose which book to buy, execute a mathematical proof. It's as if we think of code as a magic spell, an incantation to reveal what we need to know and even what we want. Humans have always believed that certain invocations—the marriage vow, the shaman's curse—do not merely describe the world

but make it. Computation casts a cultural shadow that is shaped by this long tradition of magical thinking. In this book, Ed Finn considers how the algorithm—in practical terms, “a method for solving a problem”—has its roots not only in mathematical logic but also in cybernetics, philosophy, and magical thinking. Finn argues that the algorithm deploys concepts from the idealized space of computation in a messy reality, with unpredictable and sometimes fascinating results. Drawing on sources that range from Neal Stephenson's Snow Crash to Diderot's Encyclopédie, from Adam Smith to the Star Trek computer, Finn explores the gap between theoretical ideas and pragmatic instructions. He examines the development of intelligent assistants like Siri, the rise of algorithmic aesthetics at Netflix, Ian Bogost's satiric Facebook game Cow Clicker, and the revolutionary economics of Bitcoin. He describes Google's goal of anticipating our questions, Uber's cartoon maps and black box accounting, and what Facebook tells us about programmable value, among other things. If we want to understand the gap between abstraction and messy reality, Finn argues, we need to build a model of “algorithmic reading” and scholarship that attends to process, spearheading a new experimental humanities.

Mastering CloudForms Automation Peter McGowan 2016-08-22 Learn how to work with the Automate feature of CloudForms, the powerful Red Hat cloud management platform that lets you administer your virtual infrastructure, including hybrid public and private clouds. This practical hands-on introduction shows you how to increase your operational efficiency by automating day-to-day tasks that now require manual input. Throughout the book, author Peter McGowan provides a combination of theoretical information and practical coding examples to help you learn the Automate object model. With this CloudForms feature, you can create auto-scalable cloud applications, eliminate manual decisions and operations when provisioning virtual machines and cloud instances, and manage your complete virtual machine lifecycle. In six parts, this book helps you: Learn the objects and concepts for developing automation scripts with CloudForms Automate Customize the steps and workflows involved in provisioning virtual machines Create and use service catalogs, items, dialogs, objects, bundles, and hierarchies Use CloudForm’s updated workflow

to retire and delete virtual machines and services Orchestrate and coordinate with external services as part of a workflow Explore distributed automation processing as well as argument passing and handling

We Are Data John Cheney-Lippold 2017-05-02 What identity means in an algorithmic age: how it works, how our lives are controlled by it, and how we can resist it Algorithms are everywhere, organizing the near limitless data that exists in our world. Derived from our every search, like, click, and purchase, algorithms determine the news we get, the ads we see, the information accessible to us and even who our friends are. These complex configurations not only form knowledge and social relationships in the digital and physical world, but also determine who we are and who we can be, both on and offline. Algorithms create and recreate us, using our data to assign and reassign our gender, race, sexuality, and citizenship status. They can recognize us as celebrities or mark us as terrorists. In this era of ubiquitous surveillance, contemporary data collection entails more than gathering information about us. Entities like Google, Facebook, and the NSA also decide what that information means, constructing our worlds and the identities we inhabit in the process. We have little control over who we algorithmically are. Our identities are made useful not for us—but for someone else. Through a series of entertaining and engaging examples, John Cheney-Lippold draws on the social constructions of identity to advance a new understanding of our algorithmic identities. We Are Data will educate and inspire readers who want to wrest back some freedom in our increasingly surveilled and algorithmically-constructed world.

Think Java Allen B. Downey 2016-05-06 Currently used at many colleges, universities, and high schools, this hands-on introduction to computer science is ideal for people with little or no programming experience. The goal of this concise book is not just to teach you Java, but to help you think like a computer scientist. You'll learn how to program—a useful skill by itself—but you'll also discover how to use programming as a means to an end. Authors Allen Downey and Chris Mayfield start with the most basic concepts and gradually move into topics that are more complex, such as recursion and object-oriented programming. Each brief chapter covers the material for one

week of a college course and includes exercises to help you practice what you've learned. Learn one concept at a time: tackle complex topics in a series of small steps with examples Understand how to formulate problems, think creatively about solutions, and write programs clearly and accurately Determine which development techniques work best for you, and practice the important skill of debugging Learn relationships among input and output, decisions and loops, classes and methods, strings and arrays Work on exercises involving word games, graphics, puzzles, and playing cards

Deep Learning with Python Francois Chollet 2017-11-30 Summary Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Machine learning has made remarkable progress in recent years. We went from near-unusable speech and image recognition, to near-human accuracy. We went from machines that couldn't beat a serious Go player, to defeating a world champion. Behind this progress is deep learning—a combination of engineering advances, best practices, and theory that enables a wealth of previously impossible smart applications. About the Book Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. You'll explore challenging concepts and practice with applications in computer vision, natural-language processing, and generative models. By the time you finish, you'll have the knowledge and hands-on skills to apply deep learning in your own projects. What's Inside Deep learning from first principles Setting up your own deep-learning environment Image-classification models Deep learning for text and sequences Neural style transfer, text generation, and image generation About the Reader Readers need intermediate Python skills. No previous experience with Keras, TensorFlow, or machine learning is required. About the Author François Chollet

works on deep learning at Google in Mountain View, CA. He is the creator of the Keras deep-learning library, as well as a contributor to the TensorFlow machine-learning framework. He also does deep-learning research, with a focus on computer vision and the application of machine learning to formal reasoning. His papers have been published at major conferences in the field, including the Conference on Computer Vision and Pattern Recognition (CVPR), the Conference and Workshop on Neural Information Processing Systems (NIPS), the International Conference on Learning Representations (ICLR), and others. Table of Contents PART 1 - FUNDAMENTALS OF DEEP LEARNING What is deep learning? Before we begin: the mathematical building blocks of neural networks Getting started with neural networks Fundamentals of machine learning PART 2 - DEEP LEARNING IN PRACTICE Deep learning for computer vision Deep learning for text and sequences Advanced deep-learning best practices Generative deep learning Conclusions appendix A - Installing Keras and its dependencies on Ubuntu appendix B - Running Jupyter notebooks on an EC2 GPU instance
Fundamentals of Computer Programming with C# Svetlin Nakov 2013-09-01 The free book "Fundamentals of Computer Programming with C#" is a comprehensive computer programming tutorial that teaches programming, logical thinking, data structures and algorithms, problem solving and high quality code with lots of examples in C#. It starts with the first steps in programming and software development like variables, data types, conditional statements, loops and arrays and continues with other basic topics like methods, numeral systems, strings and string processing, exceptions, classes and objects. After the basics this fundamental programming book enters into more advanced programming topics like recursion, data structures (lists, trees, hash-tables and graphs), high-quality code, unit testing and refactoring, object-oriented principles (inheritance, abstraction, encapsulation and polymorphism) and their implementation the C# language. It also covers fundamental topics that each good developer should know like algorithm design, complexity of algorithms and problem solving. The book uses C# language and Visual Studio to illustrate the programming concepts and explains some C# / .NET specific technologies like lambda expressions, extension methods

and LINQ. The book is written by a team of developers lead by Svetlin Nakov who has 20+ years practical software development experience. It teaches the major programming concepts and way of thinking needed to become a good software engineer and the C# language in the meantime. It is a great start for anyone who wants to become a skillful software engineer. The books does not teach technologies like databases, mobile and web development, but shows the true way to master the basics of programming regardless of the languages, technologies and tools. It is good for beginners and intermediate developers who want to put a solid base for a successful career in the software engineering industry. The book is accompanied by free video lessons, presentation slides and mind maps, as well as hundreds of exercises and live examples. Download the free C# programming book, videos, presentations and other resources from http://introprogramming.info. Title: Fundamentals of Computer Programming with C# (The Bulgarian C# Programming Book) ISBN: 9789544007737 ISBN-13: 978-954-400-773-7 (9789544007737) ISBN-10: 954-400-773-3 (9544007733) Author: Svetlin Nakov & Co. Pages: 1132 Language: English Published: Sofia, 2013 Publisher: Faber Publishing, Bulgaria Web site: http://www.introprogramming.info License: CC-Attribution-Share-Alike Tags: free, programming, book, computer programming, programming fundamentals, ebook, book programming, C#, CSharp, C# book, tutorial, C# tutorial; programming concepts, programming fundamentals, compiler, Visual Studio, .NET, .NET Framework, data types, variables, expressions, statements, console, conditional statements, control-flow logic, loops, arrays, numeral systems, methods, strings, text processing, StringBuilder, exceptions, exception handling, stack trace, streams, files, text files, linear data structures, list, linked list, stack, queue, tree, balanced tree, graph, depth-first search, DFS, breadth-first search, BFS, dictionaries, hash tables, associative arrays, sets, algorithms, sorting algorithm, searching algorithms, recursion, combinatorial algorithms, algorithm complexity, OOP, object-oriented programming, classes, objects, constructors, fields, properties, static members, abstraction, interfaces, encapsulation, inheritance, virtual methods, polymorphism, cohesion, coupling, enumerations, generics, namespaces, UML,

design patterns, extension methods, anonymous types, lambda expressions, LINQ, code quality, high-quality code, high-quality classes, high-quality methods, code formatting, self-documenting code, code refactoring, problem solving, problem solving methodology, 9789544007737, 9544007733

Artificial Unintelligence Meredith Broussard 2019-01-29 A guide to understanding the inner workings and outer limits of technology and why we should never assume that computers always get it right. In Artificial Unintelligence, Meredith Broussard argues that our collective enthusiasm for applying computer technology to every aspect of life has resulted in a tremendous amount of poorly designed systems. We are so eager to do everything digitally—hiring, driving, paying bills, even choosing romantic partners—that we have stopped demanding that our technology actually work. Broussard, a software developer and journalist, reminds us that there are fundamental limits to what we can (and should) do with technology. With this book, she offers a guide to understanding the inner workings and outer limits of technology—and issues a warning that we should never assume that computers always get things right. Making a case against technochauvinism—the belief that technology is always the solution—Broussard argues that it's just not true that social problems would inevitably retreat before a digitally enabled Utopia. To prove her point, she undertakes a series of adventures in computer programming. She goes for an alarming ride in a driverless car, concluding “the cyborg future is not coming any time soon”; uses artificial intelligence to investigate why students can't pass standardized tests; deploys machine learning to predict which passengers survived the Titanic disaster; and attempts to repair the U.S. campaign finance system by building AI software. If we understand the limits of what we can do with technology, Broussard tells us, we can make better choices about what we should do with it to make the world better for everyone.

Invent Your Own Computer Games with Python, 4th Edition Al Sweigart 2016-12-16 Invent Your Own Computer Games with Python will teach you how to make computer games using the popular Python programming language—even if you’ve never programmed before! Begin by building classic games like Hangman, Guess the

Number, and Tic-Tac-Toe, and then work your way up to more advanced games, like a text-based treasure hunting game and an animated collision-dodging game with sound effects. Along the way, you'll learn key programming and math concepts that will help you take your game programming to the next level. Learn how to: –Combine loops, variables, and flow control statements into real working programs –Choose the right data structures for the job, such as lists, dictionaries, and tuples –Add graphics and animation to your games with the pygame module –Handle keyboard and mouse input –Program simple artificial intelligence so you can play against the computer –Use cryptography to convert text messages into secret code –Debug your programs and find common errors As you work through each game, you'll build a solid foundation in Python and an understanding of computer science fundamentals. What new game will you create with the power of Python? The projects in this book are compatible with Python 3.

C++ Concurrency in Action Anthony Williams 2019-02-07 Summary This bestseller has been updated and revised to cover all the latest changes to C++ 14 and 17! C++ Concurrency in Action, Second Edition teaches you everything you need to write robust and elegant multithreaded applications in C++17. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology You choose C++ when your applications need to run fast. Well-designed concurrency makes them go even faster. C++ 17 delivers strong support for the multithreaded, multiprocessor programming required for fast graphic processing, machine learning, and other performance-sensitive tasks. This exceptional book unpacks the features, patterns, and best practices of production-grade C++ concurrency. About the Book C++ Concurrency in Action, Second Edition is the definitive guide to writing elegant multithreaded applications in C++. Updated for C++ 17, it carefully addresses every aspect of concurrent development, from starting new threads to designing fully functional multithreaded algorithms and data structures. Concurrency master Anthony Williams presents examples and practical tasks in every chapter, including insights that will delight even the most experienced developer. What's inside Full coverage of new C++ 17 features Starting and managing

threads Synchronizing concurrent operations Designing concurrent code Debugging multithreaded applications About the Reader Written for intermediate C and C++ developers. No prior experience with concurrency required. About the Author Anthony Williams has been an active member of the BSI C++ Panel since 2001 and is the developer of the just::thread Pro extensions to the C++ 11 thread library. Table of Contents Hello, world of concurrency in C++! Managing threads Sharing data between threads Synchronizing concurrent operations The C++ memory model and operations on atomic types Designing lock-based concurrent data structures Designing lock-free concurrent data structures Designing concurrent code Advanced thread management Parallel algorithms Testing and debugging multithreaded applications

Hello World: Being Human in the Age of Algorithms Hannah Fry 2018-09-18 Shortlisted for the 2018 Royal Society Investment Science Book Prize A look inside the algorithms that are shaping our lives and the dilemmas they bring with them. If you were accused of a crime, who would you rather decide your sentence—a mathematically consistent algorithm incapable of empathy or a compassionate human judge prone to bias and error? What if you want to buy a driverless car and must choose between one programmed to save as many lives as possible and another that prioritizes the lives of its own passengers? And would you agree to share your family's full medical history if you were told that it would help researchers find a cure for cancer? These are just some of the dilemmas that we are beginning to face as we approach the age of the algorithm, when it feels as if the machines reign supreme. Already, these lines of code are telling us what to watch, where to go, whom to date, and even whom to send to jail. But as we rely on algorithms to automate big, important decisions—in crime, justice, healthcare, transportation, and money—they raise questions about what we want our world to look like. What matters most: Helping doctors with diagnosis or preserving privacy? Protecting victims of crime or preventing innocent people being falsely accused? Hello World takes us on a tour through the good, the bad, and the downright ugly of the algorithms that surround us on a daily basis. Mathematician Hannah Fry reveals their inner workings, showing us how algorithms are written and implemented,

and demonstrates the ways in which human bias can literally be written into the code. By weaving in relatable, real world stories with accessible explanations of the underlying mathematics that power algorithms, Hello World helps us to determine their power, expose their limitations, and examine whether they really are improvement on the human systems they replace.

Things to Make and Do in the Fourth Dimension Matt Parker 2014-10-30 Stand-up mathematician and star of Festival of the Spoken Nerd, Matt Parker presents Things to Make and Do in the Fourth Dimension -- a riotous journey through the possibilities of numbers, with audience participation - Cut pizzas in new and fairer ways! - Fit a 2p coin through an impossibly small hole! - Make a perfect regular pentagon by knotting a piece of paper! - Tie your shoes faster than ever before, saving literally seconds of your life! - Use those extra seconds to contemplate the diminishing returns of an exclamation-point at the end of every bullet-point! - Make a working computer out of dominoes! Maths is a game. This book can be cut, drawn in, folded into shapes and will even take you to the fourth dimension. So join stand-up mathematician Matt Parker on a journey through narcissistic numbers, optimal dating algorithms, at least two different kinds of infinity and more.

What is Thought? Eric B. Baum 2004 Toward a computational explanation of thought: an argument that underlying mind is a complex but compact program that corresponds to the underlying complex structure of the world.

The Age of Spiritual Machines Ray Kurzweil 2000-01-01 Ray Kurzweil is the inventor of the most innovative and compelling technology of our era, an international authority on artificial intelligence, and one of our greatest living visionaries. Now he offers a framework for envisioning the twenty-first century--an age in which the marriage of human sensitivity and artificial intelligence fundamentally alters and improves the way we live. Kurzweil's prophetic blueprint for the future takes us through the advances that inexorably result in computers exceeding the memory capacity and computational ability of the human brain by the year 2020 (with human-level capabilities not far behind); in relationships with automated personalities who will be our teachers, companions, and lovers; and in information fed straight into

our brains along direct neural pathways. Optimistic and challenging, thought-provoking and engaging, The Age of Spiritual Machines is the ultimate guide on our road into the next century.

Practical Python Data Wrangling and Data Quality Susan E. McGregor 2021-12-03 The world around us is full of data that holds unique insights and valuable stories, and this book will help you uncover them. Whether you already work with data or want to learn more about its possibilities, the examples and techniques in this practical book will help you more easily clean, evaluate, and analyze data so that you can generate meaningful insights and compelling visualizations. Complementing foundational concepts with expert advice, author Susan E. McGregor provides the resources you need to extract, evaluate, and analyze a wide variety of data sources and formats, along with the tools to communicate your findings effectively. This book delivers a methodical, jargon-free way for data practitioners at any level, from true novices to seasoned professionals, to harness the power of data. Use Python 3.8+ to read, write, and transform data from a variety of sources Understand and use programming basics in Python to wrangle data at scale Organize, document, and structure your code using best practices Collect data from structured data files, web pages, and APIs Perform basic statistical analyses to make meaning from datasets Visualize and present data in clear and compelling ways

The Complete Guide to Absolutely Everything (Abridged): Adventures in Math and Science Adam Rutherford 2022-01-25 The complete story of the universe and absolutely everything in it (minus the boring parts). Despite our clever linguistic abilities, humans are spectacularly ill-equipped to comprehend what's happening in the universe. Our senses and intuition routinely mislead us. The Complete Guide to Absolutely Everything (Abridged) tells the story of how we came to suppress our monkey minds and perceive the true nature of reality. Written with wit and humor, this brief book tells the story of science—tales of fumbles and missteps, errors and egos, hard work, accidents, and some really bad decisions—all of which have created the sum total of human knowledge. Geneticist Adam Rutherford and mathematician Hannah Fry guide readers through time and space, through our bodies and brains, showing how emotions shape our view

of reality, how our minds tell us lies, and why a mostly bald and curious ape decided to begin poking at the fabric of the universe. Rutherford and Fry shine as science sleuths, wrestling with some truly head-scratching questions: Where did time come from? Do we have free will? Does my dog love me? Hilarious sidebars present memorable scientific oddities: for example, hypnotized snails, human-sized ants, and the average time it takes most animals to evacuate their bladders. (A surprisingly consistent twenty-one seconds, if you must know.) Both rigorous and playful, The Complete Guide to Absolutely Everything (Abridged) is a celebration of the weirdness of the cosmos, the strangeness of humans, and the joys and follies of scientific discovery.

Netopia Y. G. Levimor 2015-12-28 The perfect reality is just a thought away, but it comes at a chilling price. In a near future world, a social network by the name of MINDS gifts its users with the unique ability to communicate directly by thoughts and recreate reality by their deepest fantasies and desires. In the MINDS network, desires are actualized in a spilt of a second and unwanted elements erased from reality. The advanced algorithms of MINDS enable the user to virtually visit any place in the world or in history within seconds, in an utterly realistic three-dimensional reality. Humans can use their mind to determine everything they please - from the weather to the way their friends look like and behave. But the ultimate comfort comes at a price, and the unexpected results reveal the grand plan behind MINDS. What stands behind this magnificent social network, and what are the consequences when the virtual merges with the actual? Netopia follows the heroes of the network in the days before its establishment, through its launch, relationships and love, and the unexpected change it wreaks on the enthusiastic users who had no idea what awaited them the moment they gave up control over their minds. Is the MINDS network a dream come true or a nightmare come to life? Netopia is beyond science fiction: it is a groundbreaking novel that explores the implications of communication technology on human nature and society, the preference of warmth for realistic animal doll pets but coldness towards humans. the novel speaks to the connected and to the disconnected, to the great minds and the Neverminds. Netopia is a gleaming hope and a dark warning. So,

where is your mind? Scroll up to grab your copy now.
Machine Learning in Action Peter Harrington 2012-04-03 Summary Machine Learning in Action is unique book that blends the foundational theories of machine learning with the practical realities of building tools for everyday data analysis. You'll use the flexible Python programming language to build programs that implement algorithms for data classification, forecasting, recommendations, and higher-level features like summarization and simplification. About the Book A machine is said to learn when its performance improves with experience. Learning requires algorithms and programs that capture data and ferret out the interestingor useful patterns. Once the specialized domain of analysts and mathematicians, machine learning is becoming a skill needed by many. Machine Learning in Action is a clearly written tutorial for developers. It avoids academic language and takes you straight to the techniques you'll use in your day-to-day work. Many (Python) examples present the core algorithms of statistical data processing, data analysis, and data visualization in code you can reuse. You'll understand the concepts and how they fit in with tactical tasks like classification, forecasting, recommendations, and higher-level features like summarization and simplification. Readers need no prior experience with machine learning or statistical processing. Familiarity with Python is helpful. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside A no-nonsense introduction Examples showing common ML tasks Everyday data analysis Implementing classic algorithms like Apriori and Adaboos Table of Contents PART 1 CLASSIFICATION Machine learning basics Classifying with k-Nearest Neighbors Splitting datasets one feature at a time: decision trees Classifying with probability theory: naïve Bayes Logistic regression Support vector machines Improving classification with the AdaBoost meta algorithm PART 2 FORECASTING NUMERIC VALUES WITH REGRESSION Predicting numeric values: regression Tree-based regression PART 3 UNSUPERVISED LEARNING Grouping unlabeled items using k-means clustering Association analysis with the Apriori algorithm Efficiently finding frequent itemsets with FP-growth PART 4 ADDITIONAL TOOLS Using principal component analysis to simplify

data Simplifying data with the singular value decomposition Big data and MapReduce

Risk Assessment and Decision Analysis with Bayesian Networks Norman Fenton 2018-09-03 Since the first edition of this book published, Bayesian networks have become even more important for applications in a vast array of fields. This second edition includes new material on influence diagrams, learning from data, value of information, cybersecurity, debunking bad statistics, and much more. Focusing on practical real-world problem-solving and model building, as opposed to algorithms and theory, it explains how to incorporate knowledge with data to develop and use (Bayesian) causal models of risk that provide more powerful insights and better decision making than is possible from purely data-driven solutions. Features Provides all tools necessary to build and run realistic Bayesian network models Supplies extensive example models based on real risk assessment problems in a wide range of application domains provided; for example, finance, safety, systems reliability, law, forensics, cybersecurity and more Introduces all necessary mathematics, probability, and statistics as needed Establishes the basics of probability, risk, and building and using Bayesian network models, before going into the detailed applications A dedicated website contains exercises and worked solutions for all chapters along with numerous other resources. The AgenaRisk software contains a model library with executable versions of all of the models in the book. Lecture slides are freely available to accredited academic teachers adopting the book on their course.