Manning Publications The Quick Python Book

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 Summary Modern data science solutions need to be clean, easy to read, and scalable. In Mastering Large Datasets with Python, author J.T. Wolohan teaches you how to take a small project and scale it up using a functionally influenced approach to Python coding. You'll explore methods and built-in Python tools that lend themselves to clarity and scalability, like the high-performing parallelism method, as well as distributed

technologies that allow for high data throughput. The abundant hands-on exercises in this practical tutorial will lock in these essential skills for any large-scale data science project. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Programming techniques that work well on laptop-sized data can slow to a crawl—or fail altogether—when applied to massive files or distributed datasets. By mastering the powerful map and reduce paradigm, along with the Python-based tools that support it, you can write data-centric applications that scale efficiently without requiring codebase rewrites as your requirements change. About the book Mastering Large Datasets with Python teaches you to write

code that can handle datasets of any size. You'll start with laptop-sized datasets that teach you to parallelize data analysis by breaking large tasks into smaller ones that can run simultaneously. You'll then scale those same programs to industrial-sized datasets on a cluster of cloud servers. With the map and reduce paradigm firmly in place, you'll explore tools like Hadoop and PySpark to efficiently process massive distributed datasets, speed up decision-making with machine learning, and simplify your data storage with AWS S3. What's inside An introduction to the map and reduce paradigm Parallelization with the multiprocessing module and pathos framework Hadoop and Spark for distributed computing Running AWS jobs to process large datasets About the reader

For Python programmers who need to work faster with more data. About the author J. T. Wolohan is a lead data scientist at Booz Allen Hamilton, and a PhD researcher at Indiana University, Bloomington. Table of Contents: PART 1 1 ¦ Introduction 2 ¦ Accelerating large dataset work: Map and parallel computing 3 ¦ Function pipelines for mapping complex transformations 4 ¦ Processing large datasets with lazy workflows 5 ¦ Accumulation operations with reduce 6 ¦ Speeding up map and reduce with advanced parallelization PART 2 7 ¦ Processing truly big datasets with Hadoop and Spark 8 ¦ Best practices for large data with Apache Streaming and mrjob 9 ¦ PageRank with map and reduce in PySpark 10 ¦ Faster decision-making with machine learning and PySpark

PART 3 11 ¦ Large datasets in the cloud with Amazon Web Services and S3 12 ¦ MapReduce in the cloud with Amazon's Elastic MapReduce

In 2005, Microsoft quietly announced an initiative to bring dynamic languages to the .NET platform. The starting point for this project was a .NET implementation of Python, dubbed IronPython. After a couple years of incubation, IronPython is ready for real-world use. It blends the simplicity, elegance, and dynamism of Python with the power of the .NET framework. IronPython in Action offers a comprehensive, hands-on introduction to Microsoft's exciting new approach for programming the .NET framework. It approaches IronPython as a first class .NET language, fully integrated with the .NET

environment, Visual Studio, and even the open-source Mono implementation. You'll learn how IronPython can be embedded as a ready-made scripting language into C# and VB.NET programs, used for writing full applications or for web development with ASP. Even better, you'll see how IronPython works in Silverlight for client-side web programming. IronPython opens up exciting new possibilities. Because it's a dynamic language, it permits programming paradigms not easily available in VB and C#. In this book, authors Michael Foord and Christian Muirhead explore the world of functional programming, live introspection, dynamic typing and duck typing , metaprogramming, and more. IronPython in Action explores these topics with examples, making use of the Python

interactive console to explore the .NET framework with live objects. The expert authors provide a complete introduction for programmers to both the Python language and the power of the .NET framework. The book also shows how to extend IronPython with C#, extending C# and VB.NET applications with Python, using IronPython with .NET 3.0 and Powershell, IronPython as a Windows scripting tool, and much more. 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.

Summary Grokking Deep Learning teaches you to build deep learning neural networks from scratch! In his engaging style, seasoned deep learning expert Andrew Trask shows you the

science under the hood, so you grok for yourself every detail of training neural networks. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Deep learning, a branch of artificial intelligence, teaches computers to learn by using neural networks, technology inspired by the human brain. Online text translation, self-driving cars, personalized product recommendations, and virtual voice assistants are just a few of the exciting modern advancements possible thanks to deep learning. About the Book Grokking Deep Learning teaches you to build deep learning neural networks from scratch! In his engaging style, seasoned deep learning expert Andrew Trask shows you the science under the hood, so you grok for yourself

every detail of training neural networks. Using only Python and its math-supporting library, NumPy, you'll train your own neural networks to see and understand images, translate text into different languages, and even write like Shakespeare! When you're done, you'll be fully prepared to move on to mastering deep learning frameworks. What's inside The science behind deep learning Building and training your own neural networks Privacy concepts, including federated learning Tips for continuing your pursuit of deep learning About the Reader For readers with high school-level math and intermediate programming skills. About the Author Andrew Trask is a PhD student at Oxford University and a research scientist at DeepMind. Previously, Andrew was a researcher

and analytics product manager at Digital Reasoning, where he trained the world's largest artificial neural network and helped guide the analytics roadmap for the Synthesys cognitive computing platform. Table of Contents Introducing deep learning: why you should learn it Fundamental concepts: how do machines learn? Introduction to neural prediction: forward propagation Introduction to neural learning: gradient descent Learning multiple weights at a time: generalizing gradient descent Building your first deep neural network: introduction to backpropagation How to picture neural networks: in your head and on paper Learning signal and ignoring noise:introduction to regularization and batching Modeling probabilities and nonlinearities: activation functions Neural learning about edges

and corners: intro to convolutional neural networks Neural networks that understand language: king - man + woman == ? Neural networks that write like Shakespeare: recurrent layers for variable-length data Introducing automatic optimization: let's build a deep learning framework Learning to write like Shakespeare: long short-term memory Deep learning on unseen data: introducing federated learning Where to go from here: a brief guide

Practical Performant Programming for Humans

Learn to code with Python

The Well-Grounded Python Developer

Math for Programmers

Get Programming

Mastering Large Datasets with Python

A field guide for the unique challenges of data science leadership, filled with transformative insights, personal experiences, and industry examples. In How To Lead in Data Science you will learn: Best practices for leading projects while balancing complex trade-offs Specifying, prioritizing, and planning projects from vague requirements Navigating structural challenges in your organization Working through project failures with positivity and tenacity Growing your team with coaching, mentoring, and advising Crafting technology

roadmaps and championing successful projects Driving diversity, inclusion, and belonging within teams Architecting a long-term business strategy and data roadmap as an executive Delivering a data-driven culture and structuring productive data science organizations How to Lead in Data Science is full of techniques for leading data science at every seniority level—from heading up a single project to overseeing a whole company's data strategy. Authors Jike Chong and Yue Cathy Chang share hard-won advice that they've developed building data teams for LinkedIn, Acorns, Yiren Digital, large asset-

management firms, Fortune 50 companies, and more. You'll find advice on plotting your long-term career advancement, as well as quick wins you can put into practice right away. Carefully crafted assessments and interview scenarios encourage introspection, reveal personal blind spots, and highlight development areas. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Lead your data science teams and projects to success! To make a consistent, meaningful impact as a data science leader, you

must articulate technology roadmaps, plan effective project strategies, support diversity, and create a positive environment for professional growth. This book delivers the wisdom and practical skills you need to thrive as a data science leader at all levels, from team member to the C-suite. About the book How to Lead in Data Science shares unique leadership techniques from high-performance data teams. It's filled with best practices for balancing project trade-offs and producing exceptional results, even when beginning with vague requirements or unclear expectations. You'll find a clearly presented

modern leadership framework based on current case studies, with insights reaching all the way to Aristotle and Confucius. As you read, you'll build practical skills to grow and improve your team, your company's data culture, and yourself. What's inside How to coach and mentor team members Navigate an organization's structural challenges Secure commitments from other teams and partners Stay current with the technology landscape Advance your career About the reader For data science practitioners at all levels. About the author Dr. Jike Chong and Yue Cathy Chang build, lead, and grow

high-performing data teams across industries in public and private companies, such as Acorns, LinkedIn, large asset-management firms, and Fortune 50 companies. Table of Contents 1 What makes a successful data scientist? PART 1 THE TECH LEAD: CULTIVATING LEADERSHIP 2 Capabilities for leading projects 3 Virtues for leading projects PART 2 THE MANAGER: NURTURING A TEAM 4 Capabilities for leading people 5 Virtues for leading people PART 3 THE DIRECTOR: GOVERNING A FUNCTION 6 Capabilities for leading a function 7 Virtues for leading a function PART 4 THE

EXECUTIVE: INSPIRING AN INDUSTRY 8 Capabilities for leading a company 9 Virtues for leading a company PART 5 THE LOOP AND THE FUTURE 10 Landscape, organization, opportunity, and practice 11 Leading in data science and a future outlook

Summary Hello! Python fully covers the building blocks of Python programming and gives you a gentle introduction to more advanced topics such as object-oriented programming, functional programming, network programming, and program design. New (or nearly new) programmers will learn

most of what they need to know to start using Python immediately. About this Book Programmers love Python because it's fast and efficient. Shouldn't learning Python be just the same? Hello! Python starts quickly and simply, with a line of Python code. You'll learn the basics the right way--by writing your own programs. Along the way, you'll get a gentle introduction to more advanced concepts and new programming styles.> No experience with Python needed. Exposure to another programming language is helpful but not required. 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 Makes Hello! Python special Learn Python fast Even if you've never written a line of code before, you'll be writing real Python apps in just an hour or two. Great examples There's something new in every chapter, including games, web programming with Django, databases, and more. User Friendly guides Using lots of illustrations and a down-to-earth writing style, this book invites you to explore Python along with half-a-dozen traveling companions from the User Friendly cartoon strip. ========== ========== Table of Contents

Why Python? Hunt the Wumpus Interacting with theWorld Getting Organized Business-Oriented Programming Classes and Object-oriented Programming Sufficiently Advanced Technology Django! Gaming with Pyglet Twisted Networking Django Revisted! Where to from Here?
Summary Grokking Algorithms is a fully illustrated, friendly guide that teaches you how to apply common algorithms to the practical problems you face every day as a programmer. You'll start with sorting and searching and, as you build up your skills in thinking algorithmically, you'll tackle more complex concerns

such as data compression and artificial intelligence. Each carefully presented example includes helpful diagrams and fully annotated code samples in Python. Learning about algorithms doesn't have to be boring! Get a sneak peek at the fun, illustrated, and friendly examples you'll find in Grokking Algorithms on Manning Publications' YouTube channel. Continue your journey into the world of algorithms with Algorithms in Motion, a practical, hands-on video course available exclusively at Manning.com (www.manning.com/livevideo/algorithms-in-motion). Purchase of the print book includes a free eBook in

PDF, Kindle, and ePub formats from Manning Publications. About the Technology An algorithm is nothing more than a step-by-step procedure for solving a problem. The algorithms you'll use most often as a programmer have already been discovered, tested, and proven. If you want to understand them but refuse to slog through dense multipage proofs, this is the book for you. This fully illustrated and engaging guide makes it easy to learn how to use the most important algorithms effectively in your own programs. About the Book Grokking Algorithms is a friendly take on this core computer

science topic. In it, you'll learn how to apply common algorithms to the practical programming problems you face every day. You'll start with tasks like sorting and searching. As you build up your skills, you'll tackle more complex problems like data compression and artificial intelligence. Each carefully presented example includes helpful diagrams and fully annotated code samples in Python. By the end of this book, you will have mastered widely applicable algorithms as well as how and when to use them. What's Inside Covers search, sort, and graph algorithms Over 400 pictures with detailed

walkthroughs Performance trade-offs between algorithms Python-based code samples About the Reader This easy-to-read, picture-heavy introduction is suitable for self-taught programmers, engineers, or anyone who wants to brush up on algorithms. About the Author Aditya Bhargava is a Software Engineer with a dual background in Computer Science and Fine Arts. He blogs on programming at adit.io. Table of Contents Introduction to algorithms Selection sort Recursion Quicksort Hash tables Breadth-first search Dijkstra's algorithm Greedy algorithms Dynamic programming K-nearest neighbors

Summary Geoprocessing with Python teaches you how to use the Python programming language, along with free and open source tools, to read, write, and process geospatial data. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology This book is about the science of reading, analyzing, and presenting geospatial data programmatically, using Python. Thanks to dozens of open source Python libraries and tools, you can take on professional geoprocessing tasks without investing in expensive proprietary packages like

ArcGIS and MapInfo. The book shows you how. About the Book Geoprocessing with Python teaches you how to access available datasets to make maps or perform your own analyses using free tools like the GDAL, NumPy, and matplotlib Python modules. Through lots of hands-on examples, you'll master core practices like handling multiple vector file formats, editing geometries, applying spatial and attribute filters, working with projections, and performing basic analyses on vector data. The book also covers how to manipulate, resample, and analyze raster data, such as aerial photographs and

digital elevation models. What's Inside Geoprocessing from the ground up Read, write, process, and analyze raster data Visualize data with matplotlib Write custom geoprocessing tools Three additional appendixes available online About the Reader To read this book all you need is a basic knowledge of Python or a similar programming language. About the Author Chris Garrard works as a developer for Utah State University and teaches a graduate course on Python programming for GIS. Table of Contents Introduction Python basics Reading and writing vector data Working with

different vector file formats Filtering data with OGR Manipulating geometries with OGR Vector analysis with OGR Using spatial reference systems Reading and writing raster data Working with raster data Map algebra with NumPy and SciPy Map classification Visualizing data Appendixes A - Installation B - References C - OGR - online only D - OSR - online only E - GDAL - online only

Geoprocessing with Python

Five Lines of Code

High Performance Python

How to Lead in Data Science

Full Stack Python Security
Computer Programming for Kids

Summary Redis in Action introduces Redis and walks you through examples that demonstrate how to use it effectively. You'll begin by getting Redis set up properly and then exploring the key-value model. Then, you'll dive into real use cases including simple caching, distributed ad targeting, and more. You'll learn how to scale Redis from small jobs to massive datasets. Experienced developers will appreciate chapters on clustering and internal scripting to make Redis easier to use. About the Technology When you need near-real-time access to a fast-moving data stream, key-value stores like

Redis are the way to go. Redis expands on the key-value pattern by accepting a wide variety of data types, including hashes, strings, lists, and other structures. It provides lightning-fast operations on in-memory datasets, and also makes it easy to persist to disk on the fly. Plus, it's free and open source. About this book Redis in Action introduces Redis and the key-value model. You'll quickly dive into real use cases including simple caching, distributed ad targeting, and more. You'll learn how to scale Redis from small jobs to massive datasets and discover how to integrate with traditional RDBMS or other NoSQL stores. Experienced developers will appreciate the in-depth chapters on clustering and internal scripting. Written for developers familiar with database concepts. No prior exposure

to NoSQL database concepts nor to Redis itself is required. Appropriate for systems administrators comfortable with programming. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. What's Inside Redis from the ground up Preprocessing real-time data Managing in-memory datasets Pub/sub and configuration Persisting to disk About the Author Dr. Josiah L. Carlson is a seasoned database professional and an active contributor to the Redis community. Table of Contents PART 1 GETTING STARTED Getting to know Redis Anatomy of a Redis web application PART 2 CORE CONCEPTS Commands in Redis Keeping data safe and ensuring performance Using Redis for application support

Application components in Redis Search-based applications Building a simple social network PART 3 NEXT STEPS Reducing memory use Scaling Redis Scripting Redis with Lua This third revision of Manning's popular The Quick Python Book offers a clear, crisp updated introduction to the elegant Python programming language and its famously easy-to-read syntax. Written for programmers new to Python, this latest edition includes new exercises throughout. It covers features common to other languages concisely, while introducing Python's comprehensive standard functions library and unique features in detail. About the Technology Initially Guido van Rossum's 1989 holiday project, Python has grown into an amazing computer language. It's a joy to learn and read, and

powerful enough to handle everything from low-level system resources to advanced applications like deep learning. Elegantly simple and complete, it also boasts a massive ecosystem of libraries and frameworks. Python programmers are in high demand'you can't afford not to be fluent! About the Book The Quick Python Book, Third Edition is a comprehensive guide to the Python language by a Python authority, Naomi Ceder. With the personal touch of a skilled teacher, she beautifully balances details of the language with the insights and advice you need to handle any task. Extensive, relevant examples and learn-by-doing exercises help you master each important concept the first time through. Whether you're scraping websites or playing around with nested tuples,

you'll appreciate this book's clarity, focus, and attention to detail. What's inside Clear coverage of Python 3 Core libraries, packages, and tools In-depth exercises Five new data science'related chapters About the Reader Written for readers familiar with programming concepts'no Python experience assumed. About the Author Naomi Ceder is chair of the Python Software Foundation. She has been learning, using, and teaching Python since 2001.

Introduces the programming language's syntax, control flow, and basic data structures and covers its interaction with applications and mangement of large collections of code.

”Highly recommended to everyone interested in deepening their understanding of Python and practical computer science.”

—Daniel Kenney-Jung, MD, University of Minnesota Key Features Master formal techniques taught in college computer science classes Connect computer science theory to real-world applications, data, and performance Prepare for programmer interviews Recognize the core ideas behind most “new” challenges Covers Python 3.7 Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Programming problems that seem new or unique are usually rooted in well-known engineering principles. Classic Computer Science Problems in Python guides you through time-tested scenarios, exercises, and algorithms that will prepare you for the “new” problems you’ll face when you start your next project. In this

amazing book, you'll tackle dozens of coding challenges, ranging from simple tasks like binary search algorithms to clustering data using k-means. As you work through examples for web development, machine learning, and more, you'll remember important things you've forgotten and discover classic solutions that will save you hours of time. What You Will Learn Search algorithms Common techniques for graphs Neural networks Genetic algorithms Adversarial search Uses type hints throughout This Book Is Written For For intermediate Python programmers. About The Author David Kopec is an assistant professor of Computer Science and Innovation at Champlain College in Burlington, Vermont. He is the author of Dart for Absolute Beginners (Apress, 2014),

Classic Computer Science Problems in Swift (Manning, 2018), and Classic Computer Science Problems in Java (Manning, 2020) Table of Contents Small problems Search problems Constraint-satisfaction problems Graph problems Genetic algorithms K-means clustering Fairly simple neural networks Adversarial search Miscellaneous problems

Learn Quantum Computing with Python and Q#

How and when to refactor

Big data, machine learning, and more, using Python tools

IronPython in Action

Python Workout

Publishing Python Packages

Five Lines of Code teaches refactoring

that's focused on concrete rules and getting any method down to five lines or less! There's no jargon or tricky automated-testing skills required, just easy guidelines and patterns illustrated by detailed code samples. In Five Lines of Code you will learn: The signs of bad code Improving code safely, even when you don't understand it Balancing optimization and code generality Proper compiler practices The Extract method, Introducing Strategy pattern, and many

other refactoring patterns Writing stable code that enables change-by-addition Writing code that needs no comments Real-world practices for great refactoring Improving existing code—refactoring—is one of the most common tasks you'll face as a programmer. Five Lines of Code teaches you clear and actionable refactoring rules that you can apply without relying on intuitive judgements such as "code smells." Following the author's expert perspective—that

refactoring and code smells can be learned by following a concrete set of principles—you'll learn when to refactor your code, what patterns to apply to what problem, and the code characteristics that indicate it's time for a rework. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Every codebase includes mistakes and inefficiencies that you need to find and fix. Refactor the

right way, and your code becomes elegant, easy to read, and easy to maintain. In this book, you'll learn a unique approach to refactoring that implements any method in five lines or fewer. You'll also discover a secret most senior devs know: sometimes it's quicker to hammer out code and fix it later! About the book Five Lines of Code is a fresh look at refactoring for developers of all skill levels. In it, you'll master author Christian Clausen's innovative

approach, learning concrete rules to get any method down to five lines—or less! You'll learn when to refactor, specific refactoring patterns that apply to most common problems, and characteristics of code that should be deleted altogether. What's inside The signs of bad code Improving code safely, even when you don't understand it Balancing optimization and code generality Proper compiler practices About the reader For developers of all skill levels. Examples

use easy-to-read Typescript, in the same style as Java and C#. About the author Christian Clausen works as a Technical Agile Coach, teaching teams how to refactor code. Table of Contents 1 Refactoring refactoring 2 Looking under the hood of refactoring PART 1 LEARN BY REFACTORING A COMPUTER GAME 3 Shatter long function 4 Make type codes work 5 Fuse similar code together 6 Defend the data PART 2 TAKING WHAT YOU HAVE LEARNED INTO THE REAL

WORLD 7 Collaborate with the compiler 8 Stay away from comments 9 Love deleting code 10 Never be afraid to add code 11 Follow the structure in the code 12 Avoid optimizations and generality 13 Make bad code look bad 14 Wrapping up "We finally have the definitive treatise on PyTorch! It covers the basics and abstractions in great detail. I hope this book becomes your extended reference document." —Soumith Chintala, co-creator of PyTorch Key Features Written

by PyTorch's creator and key contributors Develop deep learning models in a familiar Pythonic way Use PyTorch to build an image classifier for cancer detection Diagnose problems with your neural network and improve training with data augmentation Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Every other day we hear about new ways to put deep learning to

good use: improved medical imaging, accurate credit card fraud detection, long range weather forecasting, and more. PyTorch puts these superpowers in your hands. Instantly familiar to anyone who knows Python data tools like NumPy and Scikit-learn, PyTorch simplifies deep learning without sacrificing advanced features. It's great for building quick models, and it scales smoothly from laptop to enterprise. Deep Learning with PyTorch teaches you to create deep

learning and neural network systems with PyTorch. This practical book gets you to work right away building a tumor image classifier from scratch. After covering the basics, you'll learn best practices for the entire deep learning pipeline, tackling advanced projects as your PyTorch skills become more sophisticated. All code samples are easy to explore in downloadable Jupyter notebooks. What You Will Learn Understanding deep learning data

structures such as tensors and neural networks Best practices for the PyTorch Tensor API, loading data in Python, and visualizing results Implementing modules and loss functions Utilizing pretrained models from PyTorch Hub Methods for training networks with limited inputs Sifting through unreliable results to diagnose and fix problems in your neural network Improve your results with augmented data, better model architecture, and fine tuning This Book

Is Written For For Python programmers with an interest in machine learning. No experience with PyTorch or other deep learning frameworks is required. About The Authors Eli Stevens has worked in Silicon Valley for the past 15 years as a software engineer, and the past 7 years as Chief Technical Officer of a startup making medical device software. Luca Antiga is co-founder and CEO of an AI engineering company located in Bergamo, Italy, and a regular contributor

to PyTorch. Thomas Viehmann is a Machine Learning and PyTorch speciality trainer and consultant based in Munich, Germany and a PyTorch core developer. Table of Contents PART 1 - CORE PYTORCH 1 Introducing deep learning and the PyTorch Library 2 Pretrained networks 3 It starts with a tensor 4 Real-world data representation using tensors 5 The mechanics of learning 6 Using a neural network to fit the data 7 Telling birds from airplanes: Learning from

images 8 Using convolutions to generalize PART 2 - LEARNING FROM IMAGES IN THE REAL WORLD: EARLY DETECTION OF LUNG CANCER 9 Using PyTorch to fight cancer 10 Combining data sources into a unified dataset 11 Training a classification model to detect suspected tumors 12 Improving training with metrics and augmentation 13 Using segmentation to find suspected nodules 14 End-to-end nodule analysis, and where to go next PART 3 - DEPLOYMENT 15

Deploying to production
Summary Professional developers know the many benefits of writing application code that's clean, well-organized, and easy to maintain. By learning and following established patterns and best practices, you can take your code and your career to a new level. With Practices of the Python Pro, you'll learn to design professional-level, clean, easily maintainable software at scale using the incredibly popular programming

language, Python. You'll find easy-to-grok examples that use pseudocode and Python to introduce software development best practices, along with dozens of instantly useful techniques that will help you code like a pro. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Professional-quality code does more than just run without bugs. It's clean, readable, and

easy to maintain. To step up from a capable Python coder to a professional developer, you need to learn industry standards for coding style, application design, and development process. That's where this book is indispensable. About the book Practices of the Python Pro teaches you to design and write professional-quality software that's understandable, maintainable, and extensible. Dane Hillard is a Python pro who has helped many dozens of

developers make this step, and he knows what it takes. With helpful examples and exercises, he teaches you when, why, and how to modularize your code, how to improve quality by reducing complexity, and much more. Embrace these core principles, and your code will become easier for you and others to read, maintain, and reuse. What's inside Organizing large Python projects Achieving the right levels of abstraction Writing clean, reusable code Inheritance

and composition Considerations for testing and performance About the reader For readers familiar with the basics of Python, or another OO language. About the author Dane Hillard has spent the majority of his development career using Python to build web applications. Table of Contents: PART 1 WHY IT ALL MATTERS 1 ¦ The bigger picture PART 2 FOUNDATIONS OF DESIGN 2 ¦ Separation of concerns 3 ¦ Abstraction

and encapsulation 4 ¦ Designing for high performance 5 ¦ Testing your software PART 3 NAILING DOWN LARGE SYSTEMS 6 ¦ Separation of concerns in practice 7 ¦ Extensibility and flexibility 8 ¦ The rules (and exceptions) of inheritance 9 ¦ Keeping things lightweight 10 ¦ Achieving loose coupling PART 4 WHAT'S NEXT? 11 ¦ Onward and upward

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
Go in Action
Recipes for Mastering Python 3
With applications for Solr and Elasticsearch
Machine Learning with TensorFlow, Second Edition
Deep Learning with Python
Redis in Action

Create Python packages to share your code in a scalable and maintainable way. Improve team productivity, publish helpful libraries, or even start your own open source project following the latest Python packaging standards. Publishing Python Packages teaches you how to easily share your Python code with your team and the outside world. Learn a repeatable and highly automated process for package maintenance that's based on the best practices, tools, and standards of Python packaging. Publishing Python Packages book walks you through creating a complete package, including a C extension, and guides you all the way to publishing on the Python Package Index. You'll get hands-on experience with the latest packaging tools, and learn the ins-and-outs of package testing and continuous integration. Whether you're

entirely new to Python packaging or looking for optimal ways to maintain and scale your packages, this fast-paced and engaging guide is for you. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

In Math for Programmers you'll explore important mathematical concepts through hands-on coding. Filled with graphics and more than 300 exercises and mini-projects, this book unlocks the door to interesting–and lucrative!–careers in some of today's hottest fields. As you tackle the basics of linear algebra, calculus, and machine learning, you'll master the key Python libraries used to turn them into real-world software applications. Summary To score a job in data science, machine learning, computer graphics, and

cryptography, you need to bring strong math skills to the party. Math for Programmers teaches the math you need for these hot careers, concentrating on what you need to know as a developer. Filled with lots of helpful graphics and more than 200 exercises and mini-projects, this book unlocks the door to interesting–and lucrative!–careers in some of today's hottest programming fields. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Skip the mathematical jargon: This one-of-a-kind book uses Python to teach the math you need to build games, simulations, 3D graphics, and machine learning algorithms. Discover how algebra and calculus come alive when you see them in code! About the book In Math for Programmers you'll explore

important mathematical concepts through hands-on coding. Filled with graphics and more than 300 exercises and mini-projects, this book unlocks the door to interesting–and lucrative!–careers in some of today's hottest fields. As you tackle the basics of linear algebra, calculus, and machine learning, you'll master the key Python libraries used to turn them into real-world software applications. What's inside Vector geometry for computer graphics Matrices and linear transformations Core concepts from calculus Simulation and optimization Image and audio processing Machine learning algorithms for regression and classification About the reader For programmers with basic skills in algebra. About the author Paul Orland is a programmer, software entrepreneur, and math enthusiast. He is co-founder of Tachyus, a start-up

building predictive analytics software for the energy industry. You can find him online at www.paulor.land. Table of Contents 1 Learning math with code PART I - VECTORS AND GRAPHICS 2 Drawing with 2D vectors 3 Ascending to the 3D world 4 Transforming vectors and graphics 5 Computing transformations with matrices 6 Generalizing to higher dimensions 7 Solving systems of linear equations PART 2 - CALCULUS AND PHYSICAL SIMULATION 8 Understanding rates of change 9 Simulating moving objects 10 Working with symbolic expressions 11 Simulating force fields 12 Optimizing a physical system 13 Analyzing sound waves with a Fourier series PART 3 - MACHINE LEARNING APPLICATIONS 14 Fitting functions to data 15 Classifying data with logistic regression 16 Training neural networks

Summary Get Programming with Haskell leads you through short lessons, examples, and exercises designed to make Haskell your own. It has crystal-clear illustrations and guided practice. You will write and test dozens of interesting programs and dive into custom Haskell modules. You will gain a new perspective on programming plus the practical ability to use Haskell in the everyday world. (The 80 IQ points: not guaranteed.) Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Programming languages often differ only around the edges—a few keywords, libraries, or platform choices. Haskell gives you an entirely new point of view. To the software pioneer Alan Kay, a change in perspective can be worth 80 IQ points and Haskellers agree

on the dramatic benefits of thinking the Haskell way—thinking functionally, with type safety, mathematical certainty, and more. In this hands-on book, that's exactly what you'll learn to do. What's Inside Thinking in Haskell Functional programming basics Programming in types Real-world applications for Haskell About the Reader Written for readers who know one or more programming languages. Table of Contents Lesson 1 Getting started with Haskell Unit 1 - FOUNDATIONS OF FUNCTIONAL PROGRAMMING Lesson 2 Functions and functional programming Lesson 3 Lambda functions and lexical scope Lesson 4 First-class functions Lesson 5 Closures and partial application Lesson 6 Lists Lesson 7 Rules for recursion and pattern matching Lesson 8 Writing recursive functions Lesson 9 Higher-order functions Lesson

10 Capstone: Functional object-oriented programming with robots! Unit 2 - INTRODUCING TYPES Lesson 11 Type basics Lesson 12 Creating your own types Lesson 13 Type classes Lesson 14 Using type classes Lesson 15 Capstone: Secret messages! Unit 3 - PROGRAMMING IN TYPES Lesson 16 Creating types with "and" and "or" Lesson 17 Design by composition—Semigroups and Monoids Lesson 18 Parameterized types Lesson 19 The Maybe type: dealing with missing values Lesson 20 Capstone: Time series Unit 4 - IO IN HASKELL Lesson 21 Hello World!—introducing IO types Lesson 22 Interacting with the command line and lazy I/O Lesson 23 Working with text and Unicode Lesson 24 Working with files Lesson 25 Working with binary data Lesson 26 Capstone: Processing binary files and book data Unit 5 -

WORKING WITH TYPE IN A CONTEXT Lesson 27 The Functor type class Lesson 28 A peek at the Applicative type class: using functions in a context Lesson 29 Lists as context: a deeper look at the Applicative type class Lesson 30 Introducing the Monad type class Lesson 31 Making Monads easier with donotation Lesson 32 The list monad and list comprehensions Lesson 33 Capstone: SQL-like queries in Haskell Unit 6 - ORGANIZING CODE AND BUILDING PROJECTS Lesson 34 Organizing Haskell code with modules Lesson 35 Building projects with stack Lesson 36 Property testing with QuickCheck Lesson 37 Capstone: Building a prime-number library Unit 7 - PRACTICAL HASKELL Lesson 38 Errors in Haskell and the Either type Lesson 39 Making HTTP requests in Haskell Lesson 40

Working with JSON data by using Aeson Lesson 41 Using databases in Haskell Lesson 42 Efficient, stateful arrays in Haskell Afterword - What's next? Appendix - Sample answers to exercise

Summary Introducing Data Science teaches you how to accomplish the fundamental tasks that occupy data scientists. Using the Python language and common Python libraries, you'll experience firsthand the challenges of dealing with data at scale and gain a solid foundation in data science. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Many companies need developers with data science skills to work on projects ranging from social media marketing to machine learning. Discovering what you need to

learn to begin a career as a data scientist can seem bewildering. This book is designed to help you get started. About the Book Introducing Data ScienceIntroducing Data Science explains vital data science concepts and teaches you how to accomplish the fundamental tasks that occupy data scientists. You'll explore data visualization, graph databases, the use of NoSQL, and the data science process. You'll use the Python language and common Python libraries as you experience firsthand the challenges of dealing with data at scale. Discover how Python allows you to gain insights from data sets so big that they need to be stored on multiple machines, or from data moving so quickly that no single machine can handle it. This book gives you hands-on experience with the most popular Python data science

libraries, Scikit-learn and StatsModels. After reading this book, you'll have the solid foundation you need to start a career in data science. What's Inside Handling large data Introduction to machine learning Using Python to work with data Writing data science algorithms About the Reader This book assumes you're comfortable reading code in Python or a similar language, such as C, Ruby, or JavaScript. No prior experience with data science is required. About the Authors Davy Cielen, Arno D. B. Meysman, and Mohamed Ali are the founders and managing partners of Optimately and Maiton, where they focus on developing data science projects and solutions in various sectors. Table of Contents Data science in a big data world The data science process Machine learning Handling large data on a single computer First steps

in big data Join the NoSQL movement The rise of graph databases Text mining and text analytics Data visualization to the end user

Covers Apache Spark 3 with Examples in Java, Python, and Scala

Machine Learning in Action

Grokking Deep Learning

The Quick Python Book, Third Edition

Grokking Algorithms

Classic Computer Science Problems in Python

Presents a guide for beginners on the fundamentals of computer programming using the Python language.

Full Stack Python Security teaches you everything you'll need to build secure Python web applications. Summary In Full Stack Python Security: Cryptography, TLS, and attack resistance, you'll learn how to: Use algorithms to encrypt, hash, and digitally sign data Create and install TLS certificates Implement authentication, authorization, OAuth 2.0, and form validation in Django Protect a web application with Content Security Policy Implement Cross Origin Resource Sharing Protect against common

attacks including clickjacking, denial of service attacks, SQL injection, cross-site scripting, and more Full Stack Python Security: Cryptography, TLS, and attack resistance teaches you everything you'll need to build secure Python web applications. As you work through the insightful code snippets and engaging examples, you'll put security standards, best practices, and more into action. Along the way, you'll get exposure to important libraries and tools in the Python ecosystem. Purchase of the print book

includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Security is a full-stack concern, encompassing user interfaces, APIs, web servers, network infrastructure, and everything in between. Master the powerful libraries, frameworks, and tools in the Python ecosystem and you can protect your systems top to bottom. Packed with realistic examples, lucid illustrations, and working code, this book shows you exactly how to secure Python-based web applications. About the book Full

Stack Python Security: Cryptography, TLS, and attack resistance teaches you everything you need to secure Python and Django-based web apps. In it, seasoned security pro Dennis Byrne demystifies complex security terms and algorithms. Starting with a clear review of cryptographic foundations, you'll learn how to implement layers of defense, secure user authentication and third-party access, and protect your applications against common hacks. What's inside Encrypt, hash, and digitally sign data Create and install TLS

certificates Implement authentication, authorization, OAuth 2.0, and form validation in Django Protect against attacks such as clickjacking, cross-site scripting, and SQL injection About the reader For intermediate Python programmers. About the author Dennis Byrne is a tech lead for 23andMe, where he protects the genetic data of more than 10 million customers. Table of Contents 1 Defense in depth PART 1 - CRYPTOGRAPHIC FOUNDATIONS 2 Hashing 3 Keyed hashing 4 Symmetric encryption 5 Asymmetric

encryption 6 Transport Layer Security PART 2 - AUTHENTICATION AND AUTHORIZATION 7 HTTP session management 8 User authentication 9 User password management 10 Authorization 11 OAuth 2 PART 3 - ATTACK RESISTANCE 12 Working with the operating system 13 Never trust input 14 Cross-site scripting attacks 15 Content Security Policy 16 Cross-site request forgery 17 Cross-Origin Resource Sharing 18 Clickjacking

The Well-Grounded Python Developer teaches you how to write real software in Python by

building on the basic language skills you already have. When you're new to Python, it can be tough to understand where and how to use its many language features. There's a dizzying array of libraries, and it's challenging to fit everything together. The Well-Grounded Python Developer builds on Python skills you've learned in isolation and shows you how to unify them into a meaningful whole. The Well-Grounded Python Developer teaches you how to write real software in Python by building on the basic language skills you

already have. It helps you see the big picture you can create out of small pieces, introducing concepts like modular construction, APIs, and the design of a basic web server. When you're finished, you'll have gone from having a basic understanding of Python's syntax, grammar, and libraries to using them as the tools of a professional software developer. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

The Quick Python BookManning Publications

Company
Practices of the Python Pro
Introducing Data Science
Learn coding and testing with puzzles and games
Deep Learning with Python, Second Edition
Python Cookbook
Pandas in Action

Unlock the groundbreaking advances of deep learning with this extensively revised edition of the bestselling original. Learn directly from the creator of Keras and

master practical Python deep learning techniques that are easy to apply in the real world. In Deep Learning with Python, Second Edition you will learn: Deep learning from first principles Image classification & image segmentation Timeseries forecasting Text classification and machine translation Text generation, neural style transfer, and image generation Deep Learning with Python has taught thousands of readers how to put the full capabilities of deep learning into action. This extensively revised second

edition introduces deep learning using Python and Keras, and is loaded with insights for both novice and experienced ML practitioners. You'll learn practical techniques that are easy to apply in the real world, and important theory for perfecting neural networks. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Recent innovations in deep learning unlock exciting new software capabilities like automated language translation, image

recognition, and more. Deep learning is becoming essential knowledge for every software developer, and modern tools like Keras and TensorFlow put it within your reach, even if you have no background in mathematics or data science. About the book Deep Learning with Python, Second Edition introduces the field of deep learning using Python and the powerful Keras library. In this new edition, Keras creator François Chollet offers insights for both novice and experienced machine learning practitioners. As you move

through this book, you'll build your understanding through intuitive explanations, crisp illustrations, and clear examples. You'll pick up the skills to start developing deep-learning applications. What's inside Deep learning from first principles Image classification and image segmentation Time series forecasting Text classification and machine translation Text generation, neural style transfer, and image generation About the reader For readers with intermediate Python skills. No

previous experience with Keras, TensorFlow, or machine learning is required. About the author François Chollet is a software engineer at Google and creator of the Keras deep-learning library. Table of Contents 1 What is deep learning? 2 The mathematical building blocks of neural networks 3 Introduction to Keras and TensorFlow 4 Getting started with neural networks: Classification and regression 5 Fundamentals of machine learning 6 The universal workflow of machine learning 7 Working with Keras: A

deep dive 8 Introduction to deep learning for computer vision 9 Advanced deep learning for computer vision 10 Deep learning for timeseries 11 Deep learning for text 12 Generative deep learning 13 Best practices for the real world 14 Conclusions

Learn Quantum Computing with Python and Q# introduces quantum computing from a practical perspective. Summary Learn Quantum Computing with Python and Q# demystifies quantum computing. Using Python and the new quantum programming

language Q#, you'll build your own quantum simulator and apply quantum programming techniques to real-world examples including cryptography and chemical analysis. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Quantum computers present a radical leap in speed and computing power. Improved scientific simulations and new frontiers in cryptography that are impossible with classical computing may soon be in reach.

Microsoft's Quantum Development Kit and the Q# language give you the tools to experiment with quantum computing without knowing advanced math or theoretical physics. About the book Learn Quantum Computing with Python and Q# introduces quantum computing from a practical perspective. Use Python to build your own quantum simulator and take advantage of Microsoft's open source tools to fine-tune quantum algorithms. The authors explain complex math and theory through stories, visuals, and games. You'll learn to apply

quantum to real-world applications, such as sending secret messages and solving chemistry problems. What's inside The underlying mechanics of quantum computers Simulating qubits in Python Exploring quantum algorithms with Q# Applying quantum computing to chemistry, arithmetic, and data About the reader For software developers. No prior experience with quantum computing required. About the author Dr. Sarah Kaiser works at the Unitary Fund, a non-profit organization supporting the quantum open-source

ecosystem, and is an expert in building quantum tech in the lab. Dr. Christopher Granade works in the Quantum Systems group at Microsoft, and is an expert in characterizing quantum devices. Table of Contents PART 1 GETTING STARTED WITH QUANTUM 1 Introducing quantum computing 2 Qubits: The building blocks 3 Sharing secrets with quantum key distribution 4 Nonlocal games: Working with multiple qubits 5 Nonlocal games: Implementing a multi-qubit simulator 6 Teleportation and entanglement: Moving quantum data around

PART 2 PROGRAMMING QUANTUM ALGORITHMS IN Q# 7 Changing the odds: An introduction to Q# 8 What is a quantum algorithm? 9 Quantum sensing: It's not just a phase PART 3 APPLIED QUANTUM COMPUTING 10 Solving chemistry problems with quantum computers 11 Searching with quantum computers 12 Arithmetic with quantum computers

Summary This third revision of Manning's popular The Quick Python Book offers a clear, crisp updated introduction to the elegant Python programming language and

its famously easy-to-read syntax. Written for programmers new to Python, this latest edition includes new exercises throughout. It covers features common to other languages concisely, while introducing Python's comprehensive standard functions library and unique features in detail. Foreword by Nicholas Tollervey, Python Software Foundation. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Initially Guido van Rossum's 1989 holiday

project, Python has grown into an amazing computer language. It's a joy to learn and read, and powerful enough to handle everything from low-level system resources to advanced applications like deep learning. Elegantly simple and complete, it also boasts a massive ecosystem of libraries and frameworks. Python programmers are in high demand/mdash;you can't afford not to be fluent! About the Book The Quick Python Book, Third Edition is a comprehensive guide to the Python language by a Python authority, Naomi

Ceder. With the personal touch of a skilled teacher, she beautifully balances details of the language with the insights and advice you need to handle any task. Extensive, relevant examples and learn-by-doing exercises help you master each important concept the first time through. Whether you're scraping websites or playing around with nested tuples, you'll appreciate this book's clarity, focus, and attention to detail. What's Inside Clear coverage of Python 3 Core libraries, packages, and tools In-depth exercises

Five new data science-related chapters About the Reader Written for readers familiar with programming concepts--no Python experience assumed. About the Author Naomi Ceder is chair of the Python Software Foundation. She has been learning, using, and teaching Python since 2001. Table of Contents PART 1 - STARTING OUT About Python Getting started The Quick Python overview PART 2 - THE ESSENTIALS The absolute basics Lists, tuples, and sets Strings Dictionaries Control flow Functions Modules and scoping rules Python

programs Using the filesystem Reading and writing files Exceptions PART 3 - ADVANCED LANGUAGE FEATURES Classes and object-oriented programming Regular expressions Data types as objects Packages Using Python libraries PART 4 - WORKING WITH DATA Basic file wrangling Processing data files Data over the network Saving data Exploring data

Updated with new code, new projects, and new chapters, Machine Learning with TensorFlow, Second Edition gives readers a solid foundation in machine-learning

concepts and the TensorFlow library. Summary Updated with new code, new projects, and new chapters, Machine Learning with TensorFlow, Second Edition gives readers a solid foundation in machine-learning concepts and the TensorFlow library. Written by NASA JPL Deputy CTO and Principal Data Scientist Chris Mattmann, all examples are accompanied by downloadable Jupyter Notebooks for a hands-on experience coding TensorFlow with Python. New and revised content expands coverage of core machine

learning algorithms, and advancements in neural networks such as VGG-Face facial identification classifiers and deep speech classifiers. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Supercharge your data analysis with machine learning! ML algorithms automatically improve as they process data, so results get better over time. You don't have to be a mathematician to use ML: Tools like Google's TensorFlow library help with complex calculations so

you can focus on getting the answers you need. About the book Machine Learning with TensorFlow, Second Edition is a fully revised guide to building machine learning models using Python and TensorFlow. You'll apply core ML concepts to real-world challenges, such as sentiment analysis, text classification, and image recognition. Hands-on examples illustrate neural network techniques for deep speech processing, facial identification, and auto-encoding with CIFAR-10. What's inside Machine Learning with TensorFlow Choosing

the best ML approaches Visualizing algorithms with TensorBoard Sharing results with collaborators Running models in Docker About the reader Requires intermediate Python skills and knowledge of general algebraic concepts like vectors and matrices. Examples use the super-stable 1.15.x branch of TensorFlow and TensorFlow 2.x. About the author Chris Mattmann is the Division Manager of the Artificial Intelligence, Analytics, and Innovation Organization at NASA Jet Propulsion Lab. The first edition of this

book was written by Nishant Shukla with Kenneth Fricklas. Table of Contents PART 1 - YOUR MACHINE-LEARNING RIG 1 A machine-learning odyssey 2 TensorFlow essentials PART 2 - CORE LEARNING ALGORITHMS 3 Linear regression and beyond 4 Using regression for call-center volume prediction 5 A gentle introduction to classification 6 Sentiment classification: Large movie-review dataset 7 Automatically clustering data 8 Inferring user activity from Android accelerometer data 9 Hidden Markov models 10 Part-of-speech tagging and word-

sense disambiguation PART 3 - THE NEURAL NETWORK PARADIGM 11 A peek into autoencoders 12 Applying autoencoders: The CIFAR-10 image dataset 13 Reinforcement learning 14 Convolutional neural networks 15 Building a real-world CNN: VGG-Face ad VGG-Face Lite 16 Recurrent neural networks 17 LSTMs and automatic speech recognition 18 Sequence-to-sequence models for chatbots 19 Utility landscape

Computer Programming for Kids and Other Beginners

Hello! Python

The Quick Python Book
3D graphics, machine learning, and simulations with Python
Rust in Action
Get Programming with Haskell

Pandas has rapidly become one of Python's most popular data analysis libraries. With pandas you can efficiently sort, analyze, filter and munge almost any type of data. Pandas in Action shows you how to master this versatile tool and take the next steps in your data science career. Pandas has rapidly become

one of Python's most popular data analysis libraries. With pandas you can efficiently sort, analyze, filter and munge almost any type of data. Pandas in Action shows you how to master this versatile tool and take the next steps in your data science career. Pandas in Action makes it easy to dive into Python-based data analysis. You'll learn to use pandas to automate repetitive spreadsheet functionality and derive insight from data by sorting columns, filtering data subsets, and creating multi-leveled indices. Each chapter is

a self-contained tutorial, letting you dip in when you need to troubleshoot tricky problems. Best of all, you won't be learning from sterile or randomly created data. You'll start with a variety of datasets that are big, small, incomplete, broken, and messy and learn how to clean and format them for proper analysis. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Summary Relevant Search demystifies relevance work. Using Elasticsearch, it

teaches you how to return engaging search results to your users, helping you understand and leverage the internals of Lucene-based search engines. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Users are accustomed to and expect instant, relevant search results. To achieve this, you must master the search engine. Yet for many developers, relevance ranking is mysterious or confusing. About the Book Relevant Search demystifies the subject

and shows you that a search engine is a programmable relevance framework. You'll learn how to apply Elasticsearch or Solr to your business's unique ranking problems. The book demonstrates how to program relevance and how to incorporate secondary data sources, taxonomies, text analytics, and personalization. In practice, a relevance framework requires softer skills as well, such as collaborating with stakeholders to discover the right relevance requirements for your business. By the end, you'll be able to achieve

a virtuous cycle of provable, measurable relevance improvements over a search product's lifetime. What's Inside Techniques for debugging relevance? Applying search engine features to real problems? Using the user interface to guide searchers? A systematic approach to relevance? A business culture focused on improving search About the Reader For developers trying to build smarter search with Elasticsearch or Solr. About the Authors Doug Turnbull is lead relevance consultant at OpenSource

Connections, where he frequently speaks and blogs. John Berryman is a data engineer at Eventbrite, where he specializes in recommendations and search. Foreword author, Trey Grainger, is a director of engineering at CareerBuilder and author of Solr in Action. Table of Contents The search relevance problem Search under the hood Debugging your first relevance problem Taming tokens Basic multifield search Term-centric search Shaping the relevance function Providing relevance feedback Designing a

relevance-focused search application The relevance-centered enterprise Semantic and personalized search

"Tiny Python Projects is a gentle and amusing introduction to Python that will firm up key programming concepts while also making you giggle."—Amanda Debler, Schaeffler Key Features Learn new programming concepts through 21-bitesize programs Build an insult generator, a Tic-Tac-Toe AI, a talk-like-a-pirate program, and more Discover testing techniques that will make you a better

programmer Code-along with free accompanying videos on YouTube Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book The 21 fun-but-powerful activities in Tiny Python Projects teach Python fundamentals through puzzles and games. You'll be engaged and entertained with every exercise, as you learn about text manipulation, basic algorithms, and lists and dictionaries, and other foundational programming skills. Gain confidence and

experience while you create each satisfying project. Instead of going quickly through a wide range of concepts, this book concentrates on the most useful skills, like text manipulation, data structures, collections, and program logic with projects that include a password creator, a word rhymer, and a Shakespearean insult generator. Author Ken Youens-Clark also teaches you good programming practice, including writing tests for your code as you go. What You Will Learn Write command-line Python programs

Manipulate Python data structures Use and control randomness Write and run tests for programs and functions Download testing suites for each project This Book Is Written For For readers familiar with the basics of Python programming. About The Author Ken Youens-Clark is a Senior Scientific Programmer at the University of Arizona. He has an MS in Biosystems Engineering and has been programming for over 20 years. Table of Contents 1 How to write and test a Python program 2 The crow's nest: Working with

strings 3 Going on a picnic: Working with lists 4 Jump the Five: Working with dictionaries 5 Howler: Working with files and STDOUT 6 Words count: Reading files and STDIN, iterating lists, formatting strings 7 Gashlycrumb: Looking items up in a dictionary 8 Apples and Bananas: Find and replace 9 Dial-a-Curse: Generating random insults from lists of words 10 Telephone: Randomly mutating strings 11 Bottles of Beer Song: Writing and testing functions 12 Ransom: Randomly capitalizing text 13 Twelve Days of Christmas:

Algorithm design 14 Rhymer: Using regular expressions to create rhyming words 15 The Kentucky Friar: More regular expressions 16 The Scrambler: Randomly reordering the middles of words 17 Mad Libs: Using regular expressions 18 Gematria: Numeric encoding of text using ASCII values 19 Workout of the Day: Parsing CSV files, creating text table output 20 Password strength: Generating a secure and memorable password 21 Tic-Tac-Toe: Exploring state 22 Tic-Tac-Toe redux: An interactive version with type hints

Hello World! Third Edition is a fun, easy-to-use guide with copious illustrations and engaging examples. It takes the reader on a playful tour of basic programming concepts and then puts those concepts together to make fun and useful programs. It uses Python, a programming language that is one of the easiest to read, write, and understand. Like the previous two editions, Hello World! Third Edition is not just for kids. While the tone is light and engaging, it doesn't "talk down" to the reader, and beginners of any age will love

its readability and sense of humor. Written by Warren Sande and his son, Carter, it is full of examples that will get you thinking and learning. Reviewed by professional educators, this book is kid-tested and parent-approved. You don't need to know anything about programming to use the book, just the basics of using a computer. If you can start a program and save a file, you can learn to program using this book! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Cryptography, TLS, and attack resistance
50 ten-minute exercises
Parallelize and Distribute Your Python Code
Tiny Python Projects
Deep Learning with PyTorch
A hands-on approach

Your Python code may run correctly, but you need it to run faster. Updated for Python 3, this expanded edition shows you how to locate performance bottlenecks and significantly speed up your code in high-data-volume programs. By exploring the fundamental theory behind design choices, High Performance Python helps you gain a deeper understanding of Python's implementation. How do you take advantage of

multicore architectures or clusters? Or build a system that scales up and down without losing reliability? Experienced Python programmers will learn concrete solutions to many issues, along with war stories from companies that use high-performance Python for social media analytics, productionized machine learning, and more. Get a better grasp of NumPy, Cython, and profilers Learn how Python abstracts the underlying computer architecture Use profiling to find bottlenecks in CPU time and memory usage Write efficient programs by choosing appropriate data structures Speed up matrix and vector computations Use tools to compile Python down to machine code Manage multiple I/O and computational operations concurrently Convert multiprocessing code to run on local or remote clusters

Deploy code faster using tools like Docker
Summary The Spark distributed data processing platform provides an easy-to-implement tool for ingesting, streaming, and processing data from any source. In Spark in Action, Second Edition, you'll learn to take advantage of Spark's core features and incredible processing speed, with applications including real-time computation, delayed evaluation, and machine learning. Spark skills are a hot commodity in enterprises worldwide, and with Spark's powerful and flexible Java APIs, you can reap all the benefits without first learning Scala or Hadoop. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Analyzing enterprise data starts by reading, filtering, and merging files

and streams from many sources. The Spark data processing engine handles this varied volume like a champ, delivering speeds 100 times faster than Hadoop systems. Thanks to SQL support, an intuitive interface, and a straightforward multilanguage API, you can use Spark without learning a complex new ecosystem. About the book Spark in Action, Second Edition, teaches you to create end-to-end analytics applications. In this entirely new book, you'll learn from interesting Java-based examples, including a complete data pipeline for processing NASA satellite data. And you'll discover Java, Python, and Scala code samples hosted on GitHub that you can explore and adapt, plus appendixes that give you a cheat sheet for installing tools and understanding Spark-specific terms. What's inside Writing Spark applications

in Java Spark application architecture Ingestion through files, databases, streaming, and Elasticsearch Querying distributed datasets with Spark SQL About the reader This book does not assume previous experience with Spark, Scala, or Hadoop. About the author Jean-Georges Perrin is an experienced data and software architect. He is France's first IBM Champion and has been honored for 12 consecutive years. Table of Contents PART 1 - THE THEORY CRIPPLED BY AWESOME EXAMPLES 1 So, what is Spark, anyway? 2 Architecture and flow 3 The majestic role of the dataframe 4 Fundamentally lazy 5 Building a simple app for deployment 6 Deploying your simple app PART 2 - INGESTION 7 Ingestion from files 8 Ingestion from databases 9 Advanced ingestion: finding data sources and building your own 10 Ingestion

through structured streaming PART 3 - TRANSFORMING YOUR DATA 11 Working with SQL 12 Transforming your data 13 Transforming entire documents 14 Extending transformations with user-defined functions 15 Aggregating your data PART 4 - GOING FURTHER 16 Cache and checkpoint: Enhancing Spark's performances 17 Exporting data and building full data pipelines 18 Exploring deployment Get Programming: Learn to code with Python teaches you the basics of computer programming using the Python language. In this exercise-driven book, you'll be doing something on nearly every page as you work through 38 compact lessons and 7 engaging capstone projects. By exploring the crystal-clear illustrations, exercises that check your understanding as you go, and tips for what to try next, you'll start thinking like a

programmer in no time. This book works perfectly alongside our video course Get Programming with Python in Motion, available exclusively at Manning.com: www.manning.com/live video/get-programming-with-python-in-motion Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. What's Inside Programming skills you can use in any language Learn to code—no experience required Learn Python, the language for beginners Dozens of exercises and examples help you learn by doing About the Reader No prior programming experience needed. Table of Contents LEARNING HOW TO PROGRAM Lesson 1 - Why should you learn how to program? Lesson 2 - Basic principles of learning a programming language UNIT 1 - VARIABLES, TYPES, EXPRESSIONS, AND STATEMENTS

Lesson 3 - Introducing Python: a programming language Lesson 4 - Variables and expressions: giving names and values to things Lesson 5 - Object types and statements of code 46 Lesson 6 - Capstone project: your first Python program-convert hours to minutes UNIT 2 - STRINGS, TUPLES, AND INTERACTING WITH THE USER Lesson 7 - Introducing string objects: sequences of characters Lesson 8 - Advanced string operations Lesson 9 - Simple error messages Lesson 10 - Tuple objects: sequences of any kind of object Lesson 11 - Interacting with the user Lesson 12 - Capstone project: name mashup UNIT 3 - MAKING DECISIONS IN YOUR PROGRAMS Lesson 13 - Introducing decisions in programs Lesson 14 - Making more-complicated decisions Lesson 15 - Capstone project: choose your own

adventure UNIT 4 - REPEATING TASKS Lesson 16 - Repeating tasks with loops Lesson 17 - Customizing loops Lesson 18 - Repeating tasks while conditions hold Lesson 19 - Capstone project: Scrabble, Art Edition UNIT 5 - ORGANIZING YOUR CODE INTO REUSABLE BLOCKS Lesson 20 - Building programs to last Lesson 21 - Achieving modularity and abstraction with functions Lesson 22 - Advanced operations with functions Lesson 23 - Capstone project: analyze your friends UNIT 6 - WORKING WITH MUTABLE DATA TYPES Lesson 24 - Mutable and immutable objects Lesson 25 - Working with lists Lesson 26 - Advanced operations with lists Lesson 27 - Dictionaries as maps between objects Lesson 28 - Aliasing and copying lists and dictionaries Lesson 29 - Capstone project: document

similarity UNIT 7 - MAKING YOUR OWN OBJECT TYPES BY USING OBJECT-ORIENTED PROGRAMMING Lesson 30 - Making your own object types Lesson 31 - Creating a class for an object type Lesson 32 - Working with your own object types Lesson 33 - Customizing classes Lesson 34 - Capstone project: card game UNIT 8 - USING LIBRARIES TO ENHANCE YOUR PROGRAMS Lesson 35 - Useful libraries Lesson 36 - Testing and debugging your programs Lesson 37 - A library for graphical user interfaces Lesson 38 - Capstone project: game of tag Appendix A - Answers to lesson exercises Appendix B - Python cheat sheet Appendix C - Interesting Python libraries

Rust in Action is a hands-on guide to systems programming with Rust. Written for inquisitive programmers, it presents real-

world use cases that go far beyond syntax and structure. Summary Rust in Action introduces the Rust programming language by exploring numerous systems programming concepts and techniques. You'll be learning Rust by delving into how computers work under the hood. You'll find yourself playing with persistent storage, memory, networking and even tinkering with CPU instructions. The book takes you through using Rust to extend other applications and teaches you tricks to write blindingly fast code. You'll also discover parallel and concurrent programming. Filled to the brim with real-life use cases and scenarios, you'll go beyond the Rust syntax and see what Rust has to offer in real-world use cases. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About

the technology Rust is the perfect language for systems programming. It delivers the low-level power of C along with rock-solid safety features that let you code fearlessly. Ideal for applications requiring concurrency, Rust programs are compact, readable, and blazingly fast. Best of all, Rust's famously smart compiler helps you avoid even subtle coding errors. About the book Rust in Action is a hands-on guide to systems programming with Rust. Written for inquisitive programmers, it presents real-world use cases that go far beyond syntax and structure. You'll explore Rust implementations for file manipulation, networking, and kernel-level programming and discover awesome techniques for parallelism and concurrency. Along the way, you'll master Rust's unique borrow checker model for memory

management without a garbage collector. What's inside Elementary to advanced Rust programming Practical examples from systems programming Command-line, graphical and networked applications About the reader For intermediate programmers. No previous experience with Rust required. About the author Tim McNamara uses Rust to build data processing pipelines and generative art. He is an expert in natural language processing and data engineering. Table of Contents 1 Introducing Rust PART 1 RUST LANGUAGE DISTINCTIVES 2 Language foundations 3 Compound data types 4 Lifetimes, ownership, and borrowing PART 2 DEMYSTIFYING SYSTEMS PROGRAMMING 5 Data in depth 6 Memory 7 Files and storage 8 Networking 9 Time and timekeeping 10 Processes, threads, and containers 11 Kernel

12 Signals, interrupts, and exceptions
Hello World!
Spark in Action
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An illustrated guide for programmers and other curious people

Summary Go in Action introduces the Go language, guiding you from inquisitive developer to Go guru. The book begins by introducing the unique features and concepts of Go. Then, you'll get hands-on experience writing real-world applications including websites and network servers, as well as techniques to manipulate

and convert data at speeds that will make your friends jealous. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Application development can be tricky enough even when you aren't dealing with complex systems programming problems like web-scale concurrency and real-time performance. While it's possible to solve these common issues with additional tools and frameworks, Go handles them right out of the box, making for a more natural and productive coding experience. Developed at Google, Go powers nimble startups as well as big enterprises□companies that rely on high-performing services in their

infrastructure. About the Book Go in Action is for any intermediate-level developer who has experience with other programming languages and wants a jump-start in learning Go or a more thorough understanding of the language and its internals. This book provides an intensive, comprehensive, and idiomatic view of Go. It focuses on the specification and implementation of the language, including topics like language syntax, Go's type system, concurrency, channels, and testing. What's Inside Language specification and implementation Go's type system Internals of Go's data structures Testing and benchmarking About the Reader This book assumes you're a working developer proficient with another

language like Java, Ruby, Python, C#, or C++. About the Authors William Kennedy is a seasoned software developer and author of the blog GoingGo.Net. Brian Ketelsen and Erik St. Martin are the organizers of GopherCon and coauthors of the Go-based Skynet framework. Table of Contents Introducing Go Go quick-start Packaging and tooling Arrays, slices, and maps Go's type system Concurrency Concurrency patterns Standard library Testing and benchmarking

The only way to master a skill is to practice. In Python Workout, author Reuven M. Lerner guides you through 50 carefully selected exercises that invite you to flex your programming muscles. As you take on each new

challenge, you'll build programming skill and confidence. Summary The only way to master a skill is to practice. In Python Workout, author Reuven M. Lerner guides you through 50 carefully selected exercises that invite you to flex your programming muscles. As you take on each new challenge, you'll build programming skill and confidence. The thorough explanations help you lock in what you've learned and apply it to your own projects. Along the way, Python Workout provides over four hours of video instruction walking you through the solutions to each exercise and dozens of additional exercises for you to try on your own. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from

Manning Publications. About the technology To become a champion Python programmer you need to work out, building mental muscle with your hands on the keyboard. Each carefully selected exercise in this unique book adds to your Python prowess—one important skill at a time. About the book Python Workout presents 50 exercises that focus on key Python 3 features. In it, expert Python coach Reuven Lerner guides you through a series of small projects, practicing the skills you need to tackle everyday tasks. You'll appreciate the clear explanations of each technique, and you can watch Reuven solve each exercise in the accompanying videos. What's inside 50 hands-on exercises and

solutions Coverage of all Python data types Dozens more bonus exercises for extra practice About the reader For readers with basic Python knowledge. About the author Reuven M. Lerner teaches Python and data science to companies around the world. Table of Contents 1 Numeric types 2 Strings 3 Lists and tuples 4 Dictionaries and sets 5 Files 6 Functions 7 Functional programming with comprehensions 8 Modules and packages 9 Objects 10 Iterators and generators
If you need help writing programs in Python 3, or want to update older Python 2 code, this book is just the ticket. Packed with practical recipes written and tested with Python 3.3, this unique cookbook is for experienced

Python programmers who want to focus on modern tools and idioms. Inside, you'll find complete recipes for more than a dozen topics, covering the core Python language as well as tasks common to a wide variety of application domains. Each recipe contains code samples you can use in your projects right away, along with a discussion about how and why the solution works. Topics include: Data Structures and Algorithms Strings and Text Numbers, Dates, and Times Iterators and Generators Files and I/O Data Encoding and Processing Functions Classes and Objects Metaprogramming Modules and Packages Network and Web Programming Concurrency Utility Scripting and System Administration Testing,

Debugging, and Exceptions C Extensions