

Java Artificial Intelligence Made Easy W Java Programming

Design the MIND of a Robotic Thinker! " This book will help you get started with this exciting language and gives you an idea of what is possible. " - Melchizedek B, from Amazon.com " The examples it uses are easy to follow and the illustrations bring out the more complex aspects while making them simple. " - C. Brant, from Amazon.com " Such a cool book that covers basic Javascript programming then incorporates tools and components to explore Artificial Intelligence. " - M. Gavel, from Amazon.com * * INCLUDED BONUS: a Quick-start guide to Learning Javascript in less than a Day! * * How would you like to Create the Next SIRI? Artificial Intelligence. One of the most brilliant creations of mankind. No longer a sci-fi fantasy, but a realistic approach to making work more efficient and lives easier. And the best news? It's not that complicated after all Does it require THAT much advanced math? NO! And are you paying THOUSANDS of dollars just to learn this information? NO! Hundreds? Not even close. Within this book's pages, you'll find GREAT coding skills to learn - and more. Just some of the questions and topics include: - Complicated scheduling problem? Here's how to solve it. - How good are your AI algorithms? Analysis for Efficiency- How to interpret a system into logical code for the AI- How would an AI system would diagnose a system? We show you...- Getting an AI agent to solve problems for you and Much, much more! World-Class Training This book breaks your training down into easy-to-understand modules. It starts from the very essentials of algorithms and program procedures, so you can write great code - even as a beginner!

Human-in-the-Loop Machine Learning lays out methods for humans and machines to work together effectively. Summary Most machine learning systems that are deployed in the world today learn from human feedback. However, most machine learning courses focus almost exclusively on the algorithms, not the human-computer interaction part of the systems. This can leave a big knowledge gap for data scientists working in real-world machine learning, where data scientists spend more time on data management than on building algorithms. Human-in-the-Loop Machine Learning is a practical guide to optimizing the entire machine learning process, including techniques for annotation, active learning, transfer learning, and using machine learning to optimize every step of the process. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Machine learning applications perform better with human feedback. Keeping the right people in the loop improves the accuracy of models, reduces errors in data, lowers costs, and helps you ship models faster. About the book Human-in-the-Loop Machine Learning lays out methods for humans and machines to work together effectively. You'll find best practices on selecting sample data for human feedback, quality control for human annotations, and designing annotation interfaces. You'll learn to create training data for labeling, object detection, and semantic segmentation, sequence labeling, and more. The book starts with the basics and progresses to advanced techniques like transfer learning and self-supervision within annotation workflows. What's inside Identifying the right training and evaluation data Finding and managing people to annotate data Selecting annotation quality control strategies Designing interfaces to improve accuracy and efficiency About the author Robert (Munro) Monarch is a data scientist and engineer who has built machine learning data for companies such as Apple, Amazon, Google, and IBM. He holds a PhD from Stanford. Robert holds a PhD from Stanford focused on Human-in-the-Loop machine learning for healthcare and disaster response, and is a disaster response professional in addition to being a machine learning professional. A worked example throughout this text is classifying disaster-related messages from real disasters that Robert has helped respond to in the past. Table of Contents PART 1 - FIRST STEPS 1 Introduction

to human-in-the-loop machine learning 2 Getting started with human-in-the-loop machine learning PART 2 - ACTIVE LEARNING 3 Uncertainty sampling 4 Diversity sampling 5 Advanced active learning 6 Applying active learning to different machine learning tasks PART 3 - ANNOTATION 7 Working with the people annotating your data 8 Quality control for data annotation 9 Advanced data annotation and augmentation 10 Annotation quality for different machine learning tasks PART 4 - HUMAN-COMPUTER INTERACTION FOR MACHINE LEARNING 11 Interfaces for data annotation 12 Human-in-the-loop machine learning products

Deep learning is often viewed as the exclusive domain of math PhDs and big tech companies. But as this hands-on guide demonstrates, programmers comfortable with Python can achieve impressive results in deep learning with little math background, small amounts of data, and minimal code. How? With fastai, the first library to provide a consistent interface to the most frequently used deep learning applications. Authors Jeremy Howard and Sylvain Gugger, the creators of fastai, show you how to train a model on a wide range of tasks using fastai and PyTorch. You'll also dive progressively further into deep learning theory to gain a complete understanding of the algorithms behind the scenes. Train models in computer vision, natural language processing, tabular data, and collaborative filtering Learn the latest deep learning techniques that matter most in practice Improve accuracy, speed, and reliability by understanding how deep learning models work Discover how to turn your models into web applications Implement deep learning algorithms from scratch Consider the ethical implications of your work Gain insight from the foreword by PyTorch cofounder, Soumith Chintala

Design, build, and deploy your own machine learning applications by leveraging key Java machine learning libraries About This Book- Develop a sound strategy to solve predictive modelling problems using the most popular machine learning Java libraries- Explore a broad variety of data processing, machine learning, and natural language processing through diagrams, source code, and real-world applications- Packed with practical advice and tips to help you get to grips with applied machine learning Who This Book Is For If you want to learn how to use Java's machine learning libraries to gain insight from your data, this book is for you. It will get you up and running quickly and provide you with the skills you need to successfully create, customize, and deploy machine learning applications in real life. You should be familiar with Java programming and data mining concepts to make the most of this book, but no prior experience with data mining packages is necessary. What You Will Learn- Understand the basic steps of applied machine learning and how to differentiate among various machine learning approaches- Discover key Java machine learning libraries, what each library brings to the table, and what kind of problems each are able to solve- Learn how to implement classification, regression, and clustering- Develop a sustainable strategy for customer retention by predicting likely churn candidates- Build a scalable recommendation engine with Apache Mahout- Apply machine learning to fraud, anomaly, and outlier detection- Experiment with deep learning concepts, algorithms, and the toolbox for deep learning- Write your own activity recognition model for eHealth applications using mobile sensors In Detail As the amount of data continues to grow at an almost incomprehensible rate, being able to understand and process data is becoming a key differentiator for competitive organizations. Machine learning applications are everywhere, from self-driving cars, spam detection, document search, and trading strategies, to speech recognition. This makes machine learning well-suited to the present-day era of Big Data and Data Science. The main challenge is how to transform data into actionable knowledge. Machine Learning in Java will provide you with the techniques and tools you need to quickly gain insight from complex data. You will start by learning how to apply machine learning methods to a variety of common tasks including classification, prediction, forecasting, market basket analysis, and clustering. Moving on, you will discover how to detect anomalies and fraud, and ways to perform activity recognition, image recognition, and text analysis. By the end of the book, you will explore related web resources and

technologies that will help you take your learning to the next level. By applying the most effective machine learning methods to real-world problems, you will gain hands-on experience that will transform the way you think about data. Style and approach This is a practical tutorial that uses hands-on examples to step through some real-world applications of machine learning. Without shying away from the technical details, you will explore machine learning with Java libraries using clear and practical examples. You will explore how to prepare data for analysis, choose a machine learning method, and measure the success of the process.

Every year, thousands of students go to university to study mathematics (single honours or combined with another subject). Many of these students are extremely intelligent and hardworking, but even the best will, at some point, struggle with the demands of making the transition to advanced mathematics. Some have difficulty adjusting to independent study and to learning from lectures. Other struggles, however, are more fundamental: the mathematics shifts in focus from calculation to proof, so students are expected to interact with it in different ways. These changes need not be mysterious - mathematics education research has revealed many insights into the adjustments that are necessary - but they are not obvious and they do need explaining. This no-nonsense book translates these research-based insights into practical advice for a student audience. It covers every aspect of studying for a mathematics degree, from the most abstract intellectual challenges to the everyday business of interacting with lecturers and making good use of study time. Part 1 provides an in-depth discussion of advanced mathematical thinking, and explains how a student will need to adapt and extend their existing skills in order to develop a good understanding of undergraduate mathematics. Part 2 covers study skills as these relate to the demands of a mathematics degree. It suggests practical approaches to learning from lectures and to studying for examinations while also allowing time for a fulfilling all-round university experience. The first subject-specific guide for students, this friendly, practical text will be essential reading for anyone studying mathematics at university.

Dive into the future of data science and learn how to build the sophisticated algorithms that are fundamental to deep learning and AI with Java About This Book Go beyond the theory and put Deep Learning into practice with Java Find out how to build a range of Deep Learning algorithms using a range of leading frameworks including DL4J, Theano and Caffe Whether you're a data scientist or Java developer, dive in and find out how to tackle Deep Learning Who This Book Is For This book is intended for data scientists and Java developers who want to dive into the exciting world of deep learning. It would also be good for machine learning users who intend to leverage deep learning in their projects, working within a big data environment. What You Will Learn Get a practical deep dive into machine learning and deep learning algorithms Implement machine learning algorithms related to deep learning Explore neural networks using some of the most popular Deep Learning frameworks Dive into Deep Belief Nets and Stacked Denoising Autoencoders algorithms Discover more deep learning algorithms with Dropout and Convolutional Neural Networks Gain an insight into the deep learning library DL4J and its practical uses Get to know device strategies to use deep learning algorithms and libraries in the real world Explore deep learning further with Theano and Caffe In Detail AI and Deep Learning are transforming the way we understand software, making computers more intelligent than we could even imagine just a decade ago. Deep Learning algorithms are being used across a broad range of industries – as the fundamental driver of AI, being able to tackle Deep Learning is going to a vital and valuable skill not only within the tech world but also for the wider global economy that depends upon knowledge and insight for growth and success. It's something that's moving beyond the realm of data science – if you're a Java developer, this book gives you a great opportunity to expand your skillset. Starting with an introduction to basic machine learning algorithms, to give you a solid foundation, Deep Learning with Java takes you further into this vital world of stunning predictive insights and remarkable

machine intelligence. Once you've got to grips with the fundamental mathematical principles, you'll start exploring neural networks and identify how to tackle challenges in large networks using advanced algorithms. You will learn how to use the DL4J library and apply Deep Learning to a range of real-world use cases. Featuring further guidance and insights to help you solve challenging problems in image processing, speech recognition, language modeling, this book will make you rethink what you can do with Java, showing you how to use it for truly cutting-edge predictive insights. As a bonus, you'll also be able to get to grips with Theano and Caffe, two of the most important tools in Deep Learning today. By the end of the book, you'll be ready to tackle Deep Learning with Java. Wherever you've come from – whether you're a data scientist or Java developer – you will become a part of the Deep Learning revolution! Style and approach This is a step-by-step, practical tutorial that discusses key concepts. This book offers a hands-on approach to key algorithms to help you develop a greater understanding of deep learning. It is packed with implementations from scratch, with detailed explanation that make the concepts easy to understand and follow.

Understand the fundamentals and develop your own AI solutions in this updated edition packed with many new examples Key Features AI-based examples to guide you in designing and implementing machine intelligence Build machine intelligence from scratch using artificial intelligence examples Develop machine intelligence from scratch using real artificial intelligence Book Description AI has the potential to replicate humans in every field. Artificial Intelligence By Example, Second Edition serves as a starting point for you to understand how AI is built, with the help of intriguing and exciting examples. This book will make you an adaptive thinker and help you apply concepts to real-world scenarios. Using some of the most interesting AI examples, right from computer programs such as a simple chess engine to cognitive chatbots, you will learn how to tackle the machine you are competing with. You will study some of the most advanced machine learning models, understand how to apply AI to blockchain and Internet of Things (IoT), and develop emotional quotient in chatbots using neural networks such as recurrent neural networks (RNNs) and convolutional neural networks (CNNs). This edition also has new examples for hybrid neural networks, combining reinforcement learning (RL) and deep learning (DL), chained algorithms, combining unsupervised learning with decision trees, random forests, combining DL and genetic algorithms, conversational user interfaces (CUI) for chatbots, neuromorphic computing, and quantum computing. By the end of this book, you will understand the fundamentals of AI and have worked through a number of examples that will help you develop your AI solutions. What you will learn Apply k-nearest neighbors (KNN) to language translations and explore the opportunities in Google Translate Understand chained algorithms combining unsupervised learning with decision trees Solve the XOR problem with feedforward neural networks (FNN) and build its architecture to represent a data flow graph Learn about meta learning models with hybrid neural networks Create a chatbot and optimize its emotional intelligence deficiencies with tools such as Small Talk and data logging Building conversational user interfaces (CUI) for chatbots Writing genetic algorithms that optimize deep learning neural networks Build quantum computing circuits Who this book is for Developers and those interested in AI, who want to understand the fundamentals of Artificial Intelligence and implement them practically. Prior experience with Python programming and statistical knowledge is essential to make the most out of this book.

Java Artificial Intelligence Made Easy, With Java Programming; Learn to Create Your Problem Solving Algorithms! Today! With Machine Learning & Data Structures Createspace Independent Publishing Platform

Deep learning networks are getting smaller. Much smaller. The Google Assistant team can detect words with a model just 14 kilobytes in size—small enough to run on a microcontroller. With this practical book you'll enter the field of TinyML, where deep learning and embedded

systems combine to make astounding things possible with tiny devices. Pete Warden and Daniel Situnayake explain how you can train models small enough to fit into any environment. Ideal for software and hardware developers who want to build embedded systems using machine learning, this guide walks you through creating a series of TinyML projects, step-by-step. No machine learning or microcontroller experience is necessary. Build a speech recognizer, a camera that detects people, and a magic wand that responds to gestures Work with Arduino and ultra-low-power microcontrollers Learn the essentials of ML and how to train your own models Train models to understand audio, image, and accelerometer data Explore TensorFlow Lite for Microcontrollers, Google's toolkit for TinyML Debug applications and provide safeguards for privacy and security Optimize latency, energy usage, and model and binary size

Build machine learning (ML) solutions for Java development. This book shows you that when designing ML apps, data is the key driver and must be considered throughout all phases of the project life cycle. Practical Java Machine Learning helps you understand the importance of data and how to organize it for use within your ML project. You will be introduced to tools which can help you identify and manage your data including JSON, visualization, NoSQL databases, and cloud platforms including Google Cloud Platform and Amazon Web Services. Practical Java Machine Learning includes multiple projects, with particular focus on the Android mobile platform and features such as sensors, camera, and connectivity, each of which produce data that can power unique machine learning solutions. You will learn to build a variety of applications that demonstrate the capabilities of the Google Cloud Platform machine learning API, including data visualization for Java; document classification using the Weka ML environment; audio file classification for Android using ML with spectrogram voice data; and machine learning using device sensor data. After reading this book, you will come away with case study examples and projects that you can take away as templates for re-use and exploration for your own machine learning programming projects with Java. What You Will Learn Identify, organize, and architect the data required for ML projects Deploy ML solutions in conjunction with cloud providers such as Google and Amazon Determine which algorithm is the most appropriate for a specific ML problem Implement Java ML solutions on Android mobile devices Create Java ML solutions to work with sensor data Build Java streaming based solutions Who This Book Is For Experienced Java developers who have not implemented machine learning techniques before.

Design the MIND of a Robotic Thinker! " Every chapter is very clearly described and all of the information was presented consistently. " - Amazon Customer " Within this book you'll find GREAT coding skills to learn. Here I've learned so much from reading this book. " - Stella Mill, from Amazon.com " This is the most complete and comprehensive book I read on a subject of Artificial Intelligence so far and it's very well written as well. " - Falli Conna, from Amazon.com * * INCLUDED BONUS: a Quick-start guide to Learning Ruby in less than a Day! * * How would you like to Create the Next AI bot? Artificial Intelligence. One of the most brilliant creations of mankind. No longer a sci-fi fantasy, but a realistic approach to making work more efficient and lives easier. And the best news? It's not that complicated after all Does it require THAT much advanced math? NO! And are you paying THOUSANDS of dollars just to learn this information? NO! Hundreds? Not even close. Within this book's pages, you'll find GREAT coding skills to learn - and more. Just some of the questions and topics include: - Complicated scheduling problem? Here's how to solve it. - How good are your AI algorithms? Analysis for Efficiency- How to interpret a system into logical code for the AI- How would an AI system would diagnose a system? We show you...- Getting an AI agent to solve problems for you and Much, much more! World-Class Training This book breaks your training down into easy-to-understand modules. It starts from the very essentials of algorithms and program procedures, so you can write great code - even as a beginner!

Analysis (sometimes called Real Analysis or Advanced Calculus) is a core subject in most undergraduate mathematics degrees. It is elegant,

clever and rewarding to learn, but it is hard. Even the best students find it challenging, and those who are unprepared often find it incomprehensible at first. This book aims to ensure that no student need be unprepared. It is not like other Analysis books. It is not a textbook containing standard content. Rather, it is designed to be read before arriving at university and/or before starting an Analysis course, or as a companion text once a course is begun. It provides a friendly and readable introduction to the subject by building on the student's existing understanding of six key topics: sequences, series, continuity, differentiability, integrability and the real numbers. It explains how mathematicians develop and use sophisticated formal versions of these ideas, and provides a detailed introduction to the central definitions, theorems and proofs, pointing out typical areas of difficulty and confusion and explaining how to overcome these. The book also provides study advice focused on the skills that students need if they are to build on this introduction and learn successfully in their own Analysis courses: it explains how to understand definitions, theorems and proofs by relating them to examples and diagrams, how to think productively about proofs, and how theories are taught in lectures and books on advanced mathematics. It also offers practical guidance on strategies for effective study planning. The advice throughout is research based and is presented in an engaging style that will be accessible to students who are new to advanced abstract mathematics.

Build, train, and deploy intelligent applications using Java libraries
Key Features Leverage the power of Java libraries to build smart applications
Build and train deep learning models for implementing artificial intelligence
Learn various algorithms to automate complex tasks
Book Description Artificial intelligence (AI) is increasingly in demand as well as relevant in the modern world, where everything is driven by technology and data. AI can be used for automating systems or processes to carry out complex tasks and functions in order to achieve optimal performance and productivity. Hands-On Artificial Intelligence with Java for Beginners begins by introducing you to AI concepts and algorithms. You will learn about various Java-based libraries and frameworks that can be used in implementing AI to build smart applications. In addition to this, the book teaches you how to implement easy to complex AI tasks, such as genetic programming, heuristic searches, reinforcement learning, neural networks, and segmentation, all with a practical approach. By the end of this book, you will not only have a solid grasp of AI concepts, but you'll also be able to build your own smart applications for multiple domains. What you will learn
Leverage different Java packages and tools such as Weka, RapidMiner, and Deeplearning4j, among others
Build machine learning models using supervised and unsupervised machine learning techniques
Implement different deep learning algorithms in Deeplearning4j and build applications based on them
Study the basics of heuristic searching and genetic programming
Differentiate between syntactic and semantic similarity among texts
Perform sentiment analysis for effective decision making with LingPipe
Who this book is for Hands-On Artificial Intelligence with Java for Beginners is for Java developers who want to learn the fundamentals of artificial intelligence and extend their programming knowledge to build smarter applications.

Internet tools and applications frequently use artificial intelligence (AI) techniques to enable special features and reduced development time. Focusing on intelligent systems, this book provides the introductory AI material that Java programmers need to create Internet and Intranet applications including online games, search engines, and data-collection tools.

"This book takes an impossibly broad area of computer science and communicates what working developers need to understand in a clear and thorough way." - David Jacobs, Product Advance Local
Key Features Master the core algorithms of deep learning and AI
Build an intuitive understanding of AI problems and solutions
Written in simple language, with lots of illustrations and hands-on examples
Creative coding exercises, including building a maze puzzle game and exploring drone optimization
About The Book "Artificial intelligence" requires

teaching a computer how to approach different types of problems in a systematic way. The core of AI is the algorithms that the system uses to do things like identifying objects in an image, interpreting the meaning of text, or looking for patterns in data to spot fraud and other anomalies. Mastering the core algorithms for search, image recognition, and other common tasks is essential to building good AI applications

Grokking Artificial Intelligence Algorithms uses illustrations, exercises, and jargon-free explanations to teach fundamental AI concepts. You'll explore coding challenges like detecting bank fraud, creating artistic masterpieces, and setting a self-driving car in motion. All you need is the algebra you remember from high school math class and beginning programming skills.

What You Will Learn

- Use cases for different AI algorithms
- Intelligent search for decision making
- Biologically inspired algorithms
- Machine learning and neural networks
- Reinforcement learning to build a better robot

This Book Is Written For For software developers with high school–level math skills.

About the Author Rishal Hurbans is a technologist, startup and AI group founder, and international speaker.

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Build real-world Artificial Intelligence applications with Python to intelligently interact with the world around you

About This Book Step into the amazing world of intelligent apps using this comprehensive guide

Enter the world of Artificial Intelligence, explore it, and create your own applications

Work through simple yet insightful examples that will get you up and running with Artificial Intelligence in no time

Who This Book Is For This book is for Python developers who want to build real-world Artificial Intelligence applications. This book is friendly to Python beginners, but being familiar with Python would be useful to play around with the code. It will also be useful for experienced Python programmers who are looking to use Artificial Intelligence techniques in their existing technology stacks.

What You Will Learn

- Realize different classification and regression techniques
- Understand the concept of clustering and how to use it to automatically segment data
- See how to build an intelligent recommender system
- Understand logic programming and how to use it
- Build automatic speech recognition systems
- Understand the basics of heuristic search and genetic programming
- Develop games using Artificial Intelligence
- Learn how reinforcement learning works
- Discover how to build intelligent applications centered on images, text, and time series data
- See how to use deep learning algorithms and build applications based on it

In Detail Artificial Intelligence is becoming increasingly relevant in the modern world where everything is driven by technology and data. It is used extensively across many fields such as search engines, image recognition, robotics, finance, and so on. We will explore various real-world scenarios in this book and you'll learn about various algorithms that can be used to build Artificial Intelligence applications. During the course of this book, you will find out how to make informed decisions about what algorithms to use in a given context. Starting from the basics of Artificial Intelligence, you will learn how to develop various building blocks using different data mining techniques. You will see how to implement different algorithms to get the best possible results, and will understand how to apply them to real-world scenarios. If you want to add an intelligence layer to any application that's based on images, text, stock market, or some other form of data, this exciting book on Artificial Intelligence will definitely be your guide!

Style and approach This highly practical book will show you how to implement Artificial Intelligence. The book provides multiple examples enabling you to create smart applications to meet the needs of your organization. In every chapter, we explain an algorithm, implement it, and then build a smart application.

Design the MIND of a Robotic Thinker! " The author of this book did an excellent job and by reading this book I am

impressed. This book is well written and every lesson is very clearly described. " " - Patrick Garrity, from Amazon.com " " When I saw this book, I was immediately drawn to the title of the book. I am glad that I got the chance to download this book. " " - Jasmine Torres, from Amazon.com " " Code Well Academy put together a very comprehensive easy to read guide to walk me through from start to finish. " " - Jessica Cece, from Amazon.com " * * INCLUDED BONUS: a Quick-start guide to Learning Java in less than a Day! * * How would you like to Create the Next SIRI? Artificial Intelligence. One of the most brilliant creations of mankind. No longer a sci-fi fantasy, but a realistic approach to making work more efficient and lives easier. And the best news? It's not that complicated after all Does it require THAT much advanced math? NO! And are you paying THOUSANDS of dollars just to learn this information? NO! Hundreds? Not even close. Within this book's pages, you'll find GREAT coding skills to learn - and more. Just some of the questions and topics include: - Complicated scheduling problem? Here's how to solve it. - How good are your AI algorithms? Analysis for Efficiency - How to interpret a system into logical code for the AI - How would an AI system would diagnose a system? We show you... - Getting an AI agent to solve problems for you and Much, much more! World-Class Training This book breaks your training down into easy-to-understand modules. It starts from the very essentials of algorithms and program procedures, so you can write great code - even as a beginner!

Essential Java Skills--Made Easy! =====Java: A Beginner's Guide,2016-17Learn the all basics and advanced features of Java programming in no time from Bestseller Java Programming Author Harry. H. Chaudhary.This Java Guide, starts with the basics and Leads to Advance features of Java in detail with thousands of Java Codes and new features of Java 8 like Lambdas. Java 8 Functional interface, || Stream and Time API in Java 8. , I promise this book will make you expert level champion of java. Anyone can learn java through this book at expert level.The main objective of this java book is not to give you just Java Programming Knowledge, I have followed a pattern of improving the question solution of thousands of Codes with clear theory explanations with different Java complexities for each java topic problem, and you will find multiple solutions for complex java problems. Engineering Students and fresh developers can also use this book. This book covers common core syllabus for all Computer Science Professional Degrees If you are really serious then go ahead and make your day with this ultimate java book.What Special - In this book I covered and explained several topics of latest Java 8 Features in detail for Developers & Fresher's, Topics Like- Lambdas. || Java 8 Functional interface, || Stream and Time API in Java 8. This Java book doesn't require previous programming experience. However, if you come from a C or C++ programming background, then you will be able to learn faster.Fully updated for Java Platform, (Java SE 8), Java: A Beginner's Guide,gets you started programming in Java right away. Bestselling programming author Herb Schildt begins with the basics, such as how to create, compile, and run a Java

program. He then moves on to the keywords, syntax, and constructs that form the core of the Java language. This Oracle Press resource also covers some of Java's more advanced features, including multithreaded programming, generics, and Swing. Of course, new Java SE 8 features such as lambda expressions and default interface methods are described. An introduction to JavaFX, Java's newest GUI, concludes this step-by-step tutorial.

Become an advanced practitioner with this progressive set of master classes on application-oriented machine learning

About This Book Comprehensive coverage of key topics in machine learning with an emphasis on both the theoretical and practical aspects More than 15 open source Java tools in a wide range of techniques, with code and practical usage. More than 10 real-world case studies in machine learning highlighting techniques ranging from data ingestion up to analyzing the results of experiments, all preparing the user for the practical, real-world use of tools and data analysis.

Who This Book Is For This book will appeal to anyone with a serious interest in topics in Data Science or those already working in related areas: ideally, intermediate-level data analysts and data scientists with experience in Java. Preferably, you will have experience with the fundamentals of machine learning and now have a desire to explore the area further, are up to grappling with the mathematical complexities of its algorithms, and you wish to learn the complete ins and outs of practical machine learning.

What You Will Learn Master key Java machine learning libraries, and what kind of problem each can solve, with theory and practical guidance. Explore powerful techniques in each major category of machine learning such as classification, clustering, anomaly detection, graph modeling, and text mining. Apply machine learning to real-world data with methodologies, processes, applications, and analysis. Techniques and experiments developed around the latest specializations in machine learning, such as deep learning, stream data mining, and active and semi-supervised learning. Build high-performing, real-time, adaptive predictive models for batch- and stream-based big data learning using the latest tools and methodologies. Get a deeper understanding of technologies leading towards a more powerful AI applicable in various domains such as Security, Financial Crime, Internet of Things, social networking, and so on. In Detail Java is one of the main languages used by practicing data scientists; much of the Hadoop ecosystem is Java-based, and it is certainly the language that most production systems in Data Science are written in. If you know Java, Mastering Machine Learning with Java is your next step on the path to becoming an advanced practitioner in Data Science. This book aims to introduce you to an array of advanced techniques in machine learning, including classification, clustering, anomaly detection, stream learning, active learning, semi-supervised learning, probabilistic graph modeling, text mining, deep learning, and big data batch and stream machine learning. Accompanying each chapter are illustrative examples and real-world case studies that show how to apply the newly learned techniques using sound methodologies and the best Java-based tools available today. On completing this book, you will have an

understanding of the tools and techniques for building powerful machine learning models to solve data science problems in just about any domain. Style and approach A practical guide to help you explore machine learning—and an array of Java-based tools and frameworks—with the help of practical examples and real-world use cases.

You will build full-fledged, deep learning applications with Java and different open-source libraries. Master numerical computing, deep learning, and the latest Java programming features to carry out complex advanced tasks. This book is filled with best practices/tips after every project to help you optimize your deep learning models with ease.

A richly-illustrated, full-color introduction to deep learning that offers visual and conceptual explanations instead of equations. You'll learn how to use key deep learning algorithms without the need for complex math. Ever since computers began beating us at chess, they've been getting better at a wide range of human activities, from writing songs and generating news articles to helping doctors provide healthcare. Deep learning is the source of many of these breakthroughs, and its remarkable ability to find patterns hiding in data has made it the fastest growing field in artificial intelligence (AI). Digital assistants on our phones use deep learning to understand and respond intelligently to voice commands; automotive systems use it to safely navigate road hazards; online platforms use it to deliver personalized suggestions for movies and books - the possibilities are endless. Deep Learning: A Visual Approach is for anyone who wants to understand this fascinating field in depth, but without any of the advanced math and programming usually required to grasp its internals. If you want to know how these tools work, and use them yourself, the answers are all within these pages. And, if you're ready to write your own programs, there are also plenty of supplemental Python notebooks in the accompanying Github repository to get you going. The book's conversational style, extensive color illustrations, illuminating analogies, and real-world examples expertly explain the key concepts in deep learning, including:

- How text generators create novel stories and articles
- How deep learning systems learn to play and win at human games
- How image classification systems identify objects or people in a photo
- How to think about probabilities in a way that's useful to everyday life
- How to use the machine learning techniques that form the core of modern AI

Intellectual adventurers of all kinds can use the powerful ideas covered in Deep Learning: A Visual Approach to build intelligent systems that help us better understand the world and everyone who lives in it. It's the future of AI, and this book allows you to fully envision it. Full Color Illustrations

Write your first code in Java using simple, step-by-step examples that model real-world objects and events, making learning easy. With this book you'll be able to pick up the concepts without fuss. Java for Absolute Beginners teaches Java development in language anyone can understand, giving you the best possible start. You'll see clear code descriptions and layout so that you can get your code running as soon as possible. After reading this book, you'll come

away with the basics to get started writing programs in Java. Author Iuliana Cosmina focuses on practical knowledge and getting up to speed quickly—all the bits and pieces a novice needs to get started programming in Java. First, you'll discover how Java is executed, what type of language it is, and what it is good for. With the theory out of the way, you'll install Java, choose an editor such as IntelliJ IDEA, and write your first simple Java program. Along the way you'll compile and execute this program so it can run on any platform that supports Java. As part of this tutorial you'll see how to write high-quality code by following conventions and respecting well-known programming principles, making your projects more professional and efficient. Finally, alongside the core features of Java, you'll learn skills in some of the newest and most exciting features of the language: Generics, Lambda expressions, modular organization, local-variable type inference, and local variable syntax for Lambda expressions. Java for Absolute Beginners gives you all you need to start your Java 9+ programming journey. No experience necessary. What You'll Learn Use data types, operators, and the new stream API Install and use a build tool such as Gradle Build interactive Java applications with JavaFX Exchange data using the new JSON APIs Play with images using multi-resolution APIs Use the publish-subscribe framework Who This Book Is For Those who are new to programming and who want to start with Java.

You've decided to tackle machine learning - because you're job hunting, embarking on a new project, or just think self-driving cars are cool. But where to start? It's easy to be intimidated, even as a software developer. The good news is that it doesn't have to be that hard. Master machine learning by writing code one line at a time, from simple learning programs all the way to a true deep learning system. Tackle the hard topics by breaking them down so they're easier to understand, and build your confidence by getting your hands dirty. Peel away the obscurities of machine learning, starting from scratch and going all the way to deep learning. Machine learning can be intimidating, with its reliance on math and algorithms that most programmers don't encounter in their regular work. Take a hands-on approach, writing the Python code yourself, without any libraries to obscure what's really going on. Iterate on your design, and add layers of complexity as you go. Build an image recognition application from scratch with supervised learning. Predict the future with linear regression. Dive into gradient descent, a fundamental algorithm that drives most of machine learning. Create perceptrons to classify data. Build neural networks to tackle more complex and sophisticated data sets. Train and refine those networks with backpropagation and batching. Layer the neural networks, eliminate overfitting, and add convolution to transform your neural network into a true deep learning system. Start from the beginning and code your way to machine learning mastery. What You Need: The examples in this book are written in Python, but don't worry if you don't know this language: you'll pick up all the Python you need very quickly. Apart from that, you'll only need your computer, and your code-adept brain.

A great building requires a strong foundation. This book teaches basic Artificial Intelligence algorithms such as dimensionality, distance metrics, clustering, error calculation, hill climbing, Nelder Mead, and linear regression. These are not just foundational algorithms for the rest of the series, but are very useful in their own right. The book explains all algorithms using actual numeric calculations that you can perform yourself. Artificial Intelligence for Humans is a book series meant to teach AI to those without an extensive mathematical background. The reader needs only a knowledge of basic college algebra or computer programming—anything more complicated than that is thoroughly explained. Every chapter also includes a programming example. Examples are currently provided in Java, C#, R, Python and C. Other languages planned.

Learn practical uses for some of the hottest tech applications trending among technology professionals We are living in an era of digital revolution. On the horizon, many emerging digital technologies are being developed at a breathtaking speed. Whether we like it or not, whether we are ready or not, digital technologies are going to penetrate more and more, deeper and deeper, into every aspect of our lives. This is going to fundamentally change how we live, how we work, and how we socialize. Java, as a modern high-level programming language, is an excellent tool for helping us to learn these digital technologies, as well as to develop digital applications, such as IoT, AI, Cybersecurity, Blockchain and more. Practical Java Programming uses Java as a tool to help you learn these new digital technologies and to be better prepared for the future changes. Gives you a brief overview for getting started with Java Programming Dives into how you can apply your new knowledge to some of the biggest trending applications today Helps you understand how to program Java to interact with operating systems, networking, and mobile applications Shows you how Java can be used in trending tech applications such as IoT (Internet of Things), AI (Artificial Intelligence), Cybersecurity, and Blockchain Get ready to find out firsthand how Java can be used for connected home devices, healthcare, the cloud, and all the hottest tech applications.

Create AI applications in Python and lay the foundations for your career in data science Key Features Practical examples that explain key machine learning algorithms Explore neural networks in detail with interesting examples Master core AI concepts with engaging activities Book Description Machine learning and neural networks are pillars on which you can build intelligent applications. Artificial Intelligence and Machine Learning Fundamentals begins by introducing you to Python and discussing AI search algorithms. You will cover in-depth mathematical topics, such as regression and classification, illustrated by Python examples. As you make your way through the book, you will progress to advanced AI techniques and concepts, and work on real-life datasets to form decision trees and clusters. You will be introduced to neural networks, a powerful tool based on Moore's law. By the end of this book, you will be confident when it comes to building your own AI applications with your newly acquired skills! What you will learn Understand the importance, principles, and fields of AI Implement basic artificial intelligence concepts with Python Apply regression and classification concepts to real-world problems Perform predictive analysis using decision trees and

random forests Carry out clustering using the k-means and mean shift algorithms Understand the fundamentals of deep learning via practical examples Who this book is for Artificial Intelligence and Machine Learning Fundamentals is for software developers and data scientists who want to enrich their projects with machine learning. You do not need any prior experience in AI. However, it's recommended that you have knowledge of high school-level mathematics and at least one programming language (preferably Python).

This book offers a thorough grounding in machine learning concepts combined with practical advice on applying machine learning tools and techniques in real-world data mining situations. Clearly written and effectively illustrated, this book is ideal for anyone involved at any level in the work of extracting usable knowledge from large collections of data. Complementing the book's instruction is fully functional machine learning software.

Develop, Implement and Tuneup your Machine Learning applications using the power of Java programming About This Book Detailed coverage on key machine learning topics with an emphasis on both theoretical and practical aspects Address predictive modeling problems using the most popular machine learning Java libraries A comprehensive course covering a wide spectrum of topics such as machine learning and natural language through practical use-cases Who This Book Is For This course is the right resource for anyone with some knowledge of Java programming who wants to get started with Data Science and Machine learning as quickly as possible. If you want to gain meaningful insights from big data and develop intelligent applications using Java, this course is also a must-have. What You Will Learn Understand key data analysis techniques centered around machine learning Implement Java APIs and various techniques such as classification, clustering, anomaly detection, and more Master key Java machine learning libraries, their functionality, and various kinds of problems that can be addressed using each of them Apply machine learning to real-world data for fraud detection, recommendation engines, text classification, and human activity recognition Experiment with semi-supervised learning and stream-based data mining, building high-performing and real-time predictive models Develop intelligent systems centered around various domains such as security, Internet of Things, social networking, and more In Detail Machine Learning is one of the core area of Artificial Intelligence where computers are trained to self-learn, grow, change, and develop on their own without being explicitly programmed. In this course, we cover how Java is employed to build powerful machine learning models to address the problems being faced in the world of Data Science. The course demonstrates complex data extraction and statistical analysis techniques supported by Java, applying various machine learning methods, exploring machine learning sub-domains, and exploring real-world use cases such as recommendation systems, fraud detection, natural language processing, and more, using Java programming. The course begins with an introduction to data science and basic data science tasks such as data collection, data cleaning, data analysis, and data visualization. The next section has a detailed overview of statistical techniques, covering machine learning, neural networks, and deep learning. The next couple of sections cover applying machine learning methods using Java to a variety of chores including classifying, predicting, forecasting, market basket analysis, clustering stream learning, active learning, semi-supervised learning,

probabilistic graph modeling, text mining, and deep learning. The last section highlights real-world test cases such as performing activity recognition, developing image recognition, text classification, and anomaly detection. The course includes premium content from three of our most popular books: *Java for Data Science*, *Machine Learning in Java*, and *Mastering Java Machine Learning*. On completion of this course, you will understand various machine learning techniques, different machine learning java algorithms you can use to gain data insights, building data models to analyze larger complex data sets, and incubating applications using Java and machine learning algorithms in the field of artificial intelligence. **Style and approach** This comprehensive course proceeds from being a tutorial to a practical guide, providing an introduction to machine learning and different machine learning techniques, exploring machine learning with Java libraries, and demonstrating real-world machine learning use cases using the Java platform. *Artificial Intelligence* presents a practical guide to AI, including agents, machine learning and problem-solving simple and complex domains.

A state-of-the-art guide on how to build intelligent Web-based applications using Java Joseph and Jennifer Bigus update and significantly expand their book on building intelligent Web-based applications using Java. Geared to network programmers or Web developers who have previously programmed agents in Smalltalk or C++, this practical book explains in detail how to construct agents capable of learning and competing, including both design principles and actual code for personal agents, network or Web agents, multi-agent systems and commercial agents. New and revised coverage includes agent tools, agent uses for Web applications (including personalization, cross-selling, and e-commerce), and additional AI technologies such as fuzzy logic and genetic algorithms.

Use Java to develop neural network applications in this practical book. After learning the rules involved in neural network processing, you will manually process the first neural network example. This covers the internals of front and back propagation, and facilitates the understanding of the main principles of neural network processing. *Artificial Neural Networks with Java* also teaches you how to prepare the data to be used in neural network development and suggests various techniques of data preparation for many unconventional tasks. The next big topic discussed in the book is using Java for neural network processing. You will use the Encog Java framework and discover how to do rapid development with Encog, allowing you to create large-scale neural network applications. The book also discusses the inability of neural networks to approximate complex non-continuous functions, and it introduces the micro-batch method that solves this issue. The step-by-step approach includes plenty of examples, diagrams, and screen shots to help you grasp the concepts quickly and easily. **What You Will Learn** Prepare your data for many different tasks Carry out some unusual neural network tasks Create neural network to process non-continuous functions Select and improve the development model **Who This Book Is For** Intermediate machine learning and deep learning developers who are interested in switching to Java.

Essential Java Skills--Made Easy! What Special – In this book I covered and explained several topics of latest Java 8 Features in detail for Developers & Fresher's, Topics Like– Lambdas. || Java 8 Functional interface, || Stream and Time API in Java 8. This

Java book doesn't require previous programming experience. However, if you come from a C or C++ programming background, then you will be able to learn faster. Learn the all basics and advanced features of Java programming in no time from Bestseller Java Programming Author Harry. H. Chaudhary (More than 1,67,000 Books Sold !). This Java Guide, starts with the basics and Leads to Advance features of Java in detail with thousands of Java Codes and new features of Java 8 like Lambdas. Java 8 Functional interface, || Stream and Time API in Java 8. , I promise this book will make you expert level champion of java. Anyone can learn java through this book at expert level. The main objective of this java book is not to give you just Java Programming Knowledge, I have followed a pattern of improving the question solution of thousands of Codes with clear theory explanations with different Java complexities for each java topic problem, and you will find multiple solutions for complex java problems. Engineering Students and fresh developers can also use this book. This book covers common core syllabus for all Computer Science Professional Degrees If you are really serious then go ahead and make your day with this ultimate java book. First Part- Teach you how to compile and run a Java program, shows you everything you need to develop, compile, debug, and run Java programs. And then discusses the keywords, syntax, and constructs that form the core of the Java language. After that it leads you to advanced features of java, including multithreaded programming and Applets. Learning a new language is no easy task especially when it's an oop's programming language like Java. You might think the problem is your brain. It seems to have a mind of its own, a mind that doesn't always want to take in the dry, technical stuff you're forced to study. The fact is your brain craves novelty. This Java Book is very serious java stuff: A complete introduction to Java. You'll learn everything from the fundamentals to advanced topics, if you've read this book, you know what to expect--a visually rich format designed for the way your brain works. To use this book does not require any previous programming experience. However, if you come from a C/C++ background, then you will be able to advance a bit more rapidly. As most readers will know, Java is similar, in form and spirit, to C/C++. Thus, knowledge of those languages helps, but is not necessary. Even if you have never programmed before, you can learn to program in Java using this book. Inside Contents (Chapters): 1. (Overview of Java) 2.(Java Language) 3.(Control Statements) 4.(Scanner class, Arrays & Command Line Args) 5.(Class & Objects in Java) 6.(Inheritance in Java) 7.(Object oriented programming) 8.(Packages in Java) 9.(Interface in Java) 10.(String and StringBuffer) 11.(Exception Handling) 12.(Multi-Threaded Programming) 13.(Modifiers/Visibility modes) 14.(Wrapper Class) 15.(Input/Output in Java) 16.(Applet Fundamentals) 17.(Abstract Windows Toolkit)(AWT) 18.(Introduction To AWT Events) 19.(Painting in AWT) 20.(java.lang.Object Class) 21.(Collection Framework) PART - II (Java 8 Features for Developers) 22. Java 8 Features for Developers – Lambdas. 23. Java 8 Functional interface,Stream & Time API. 24. Key Features that Make Java More Secure than Other Languages.

The design and analysis of efficient data structures has long been recognized as a key component of the Computer Science curriculum. Goodrich, Tomassia and Goldwasser's approach to this classic topic is based on the object-oriented paradigm as the framework of choice for the design of data structures. For each ADT presented in the text, the authors provide an associated Java interface. Concrete data structures realizing the ADTs are provided as Java classes implementing the interfaces. The Java code implementing fundamental data structures in

this book is organized in a single Java package, net.datastructures. This package forms a coherent library of data structures and algorithms in Java specifically designed for educational purposes in a way that is complimentary with the Java Collections Framework.

Build next-generation Artificial Intelligence systems with Java Key Features Implement AI techniques to build smart applications using DeepLearning4j Perform big data analytics to derive quality insights using Spark MLlib Create self-learning systems using neural networks, NLP, and reinforcement learning Book Description In this age of big data, companies have larger amount of consumer data than ever before, far more than what the current technologies can ever hope to keep up with. However, Artificial Intelligence closes the gap by moving past human limitations in order to analyze data. With the help of Artificial Intelligence for big data, you will learn to use Machine Learning algorithms such as k-means, SVM, RBF, and regression to perform advanced data analysis. You will understand the current status of Machine and Deep Learning techniques to work on Genetic and Neuro-Fuzzy algorithms. In addition, you will explore how to develop Artificial Intelligence algorithms to learn from data, why they are necessary, and how they can help solve real-world problems. By the end of this book, you'll have learned how to implement various Artificial Intelligence algorithms for your big data systems and integrate them into your product offerings such as reinforcement learning, natural language processing, image recognition, genetic algorithms, and fuzzy logic systems. What you will learn Manage Artificial Intelligence techniques for big data with Java Build smart systems to analyze data for enhanced customer experience Learn to use Artificial Intelligence frameworks for big data Understand complex problems with algorithms and Neuro-Fuzzy systems Design stratagem to leverage data using Machine Learning process Apply Deep Learning techniques to prepare data for modeling Construct models that learn from data using open source tools Analyze big data problems using scalable Machine Learning algorithms Who this book is for This book is for you if you are a data scientist, big data professional, or novice who has basic knowledge of big data and wish to get proficiency in Artificial Intelligence techniques for big data. Some competence in mathematics is an added advantage in the field of elementary linear algebra and calculus.

Would you like to understand more mathematics? Many people would. Perhaps at school you liked mathematics for a while but were then put off because you missed a key idea and kept getting stuck. Perhaps you always liked mathematics but gave it up because your main interest was music or languages or science or philosophy. Or perhaps you studied mathematics to advanced levels, but have now forgotten most of what you once knew. Whichever is the case, this book is for you. It aims to build on what you know, revisiting basic ideas with a focus on meaning. Each chapter starts with an idea from school mathematics - often primary school mathematics - and gradually builds up a network of links to more advanced material. It explores fundamental ideas in depth, using insights from research in mathematics education and psychology to explain why people often get confused, and how to overcome that confusion. For nervous readers, it will build confidence by clarifying basic ideas. For more experienced readers, it will highlight new connections to more advanced material. Throughout, the book explains how mathematicians think, and how ordinary people can understand and enjoy mathematical ideas and arguments. If you would like to be better informed about the intrinsic elegance of mathematics, this engaging guide is the place to start.

“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.

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Although interest in machine learning has reached a high point, lofty expectations often scuttle projects before they get very far. How can machine learning—especially deep neural networks—make a real difference in your organization? This hands-on guide not only provides the most practical information available on the subject, but also helps you get started building efficient deep learning networks. Authors Adam Gibson and Josh Patterson provide theory on deep learning before introducing their open-source Deeplearning4j (DL4J) library for developing production-class workflows. Through real-world examples, you'll learn methods and strategies for training deep network architectures and running deep learning workflows on Spark and Hadoop with DL4J. Dive into machine learning concepts in general, as well as deep learning in particular

- Understand how deep networks evolved from neural network fundamentals
- Explore the major deep network architectures, including Convolutional and Recurrent
- Learn how to map specific deep networks to the right problem
- Walk through the fundamentals of tuning general neural networks and specific deep network architectures
- Use vectorization techniques for different data types with DataVec, DL4J's workflow tool
- Learn how to use DL4J natively on Spark and Hadoop

This book shows readers how they can successfully analyze data using only two core machine learning algorithms---and how to do so using the popular Python programming language. These algorithms deal with common scenarios faced by all data analysts and data scientists. This book focuses on two algorithm families (linear methods and ensemble methods) that effectively predict outcomes. This type of problem

covers a multitude of use cases (what ad to place on a web page, predicting prices in securities markets, detecting credit card fraud, etc.). The focus on two families gives enough room for full descriptions of the mechanisms at work in the algorithms. Then the code examples serve to illustrate the workings of the machinery with specific hackable code. The author will explain in simple terms, using no complex math, how these algorithms work, and will then show how to apply them in Python. He will also provide advice on how to select from among these algorithms, and will show how to prepare the data, and how to use the trained models in practice. The author begins with an overview of the two core algorithms, explaining the types of problems solved by each one. He then introduces a core set of Python programming techniques that can be used to apply these algorithms. The author shows various techniques for building predictive models that solve a range of problems, from simple to complex; he also shows how to measure the performance of each model to ensure you use the right one. The following chapters provide a deep dive into each of the two algorithms: penalized linear regression and ensemble methods. Chapters will show how to apply each algorithm in Python. Readers can directly use the sample code to build their own solutions.

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