Deep Learning With Python Machine Learning Mastery

Applied machine learning with a solid foundation in theory. Revised and expanded for TensorFlow 2, GANs, and reinforcement learning. Key Features Third edition of the bestselling, widely acclaimed Python machine learning book Clear and intuitive explanations take you deep into the theory and practice of Python machine learning Fully updated and expanded to cover TensorFlow 2, Generative Adversarial Network models, reinforcement learning, and best practices Book Description Python Machine Learning, Third Edition is a comprehensive guide to machine learning and deep learning with Python. It acts as both a step-by-step tutorial, and a reference you'll keep coming back to as you build your machine learning systems. Packed with clear explanations, visualizations, and working examples, the book covers all the essential machine learning techniques in depth. While some books teach you only to follow instructions, with this machine learning book, Raschka and Mirjalili teach the principles behind machine learning, allowing you to build models and applications for yourself. Updated for TensorFlow 2.0, this new third edition introduces readers to its new Keras API features, as well as the latest additions to scikit-learn. It's also expanded to cover cutting-edge reinforcement learning techniques based on deep learning, as well as an introduction to GANs. Finally, this book also explores a subfield of natural language processing (NLP) called sentiment analysis, helping you learn how to use machine learning algorithms to classify documents. This book is your companion to machine learning with Python, whether you're a Python developer new to machine learning or want to deepen your knowledge of the latest developments. What you will learn Master the frameworks, models, and techniques that enable machines to 'learn' from data Use scikit-learn for machine learning and TensorFlow for deep learning Apply machine learning to image classification, sentiment analysis, intelligent web applications, and more Build and train neural networks, GANs, and other models Discover best practices for evaluating and tuning models Predict continuous target outcomes using regression analysis Dig deeper into textual and social media data using sentiment analysis Who This Book Is For If you know some Python and you want to use machine learning and deep learning, pick up this book. Whether you want to start from scratch or extend your machine learning knowledge, this is an essential resource. Written for developers and data scientists who want to create practical machine learning and deep learning code, this book is ideal for anyone who wants to teach computers how to learn from data.

This practical guide provides nearly 200 self-contained recipes to help you solve machine learning challenges you may encounter in your daily work. If you're comfortable with Python and its libraries, including pandas and scikit-learn, you'll

be able to address specific problems such as loading data, handling text or numerical data, model selection, and dimensionality reduction and many other topics. Each recipe includes code that you can copy and paste into a toy dataset to ensure that it actually works. From there, you can insert, combine, or adapt the code to help construct your application. Recipes also include a discussion that explains the solution and provides meaningful context. This cookbook takes you beyond theory and concepts by providing the nuts and bolts you need to construct working machine learning applications. You'll find recipes for: Vectors, matrices, and arrays Handling numerical and categorical data, text, images, and dates and times Dimensionality reduction using feature extraction or feature selection Model evaluation and selection Linear and logical regression, trees and forests, and k-nearest neighbors Support vector machines (SVM), naïve Bayes, clustering, and neural networks Saving and loading trained models
What is machine learning and why would a programmer want to learn how to use it? Is artificial intelligence the same as working with machine learning? Are you interested in becoming a machine learning expert but don't know where to start from? Keep reading... The future of our world is evolving towards an era where interaction with machines form the foundation of most tasks we perform. In light of this, it is important to gain actionable knowledge in machine learning technologies and skills. These skills will be useful in the near future as you maneuver through different career paths. Today data is driving many business processes, and without data, it is impossible to imagine where many of the top businesses would be. Imagine how you used to struggle with search results online back in the day, and how easy it is to look for something online today and get the right results. All this is possible through machine learning models. What you need is a foundational approach to learning the basics of machine learning. You can use this knowledge to build your expertise in machine learning over time. While this is an introductory level book, it introduces you to vast concepts in machine learning that will be important to your career. By the end of the book, you will have learned so much about machine learning and the respective python libraries that you will use when building models all the time. An important aspect of machine learning that we must stress even at this juncture is data analysis. Data is key to the success of machine learning and deep learning models. When implemented properly, the kind of data you have will make a big difference in whether your model succeeds or not. Since we are discussing machine learning and the future of computing as we know it, we will also dedicate some time to discussing the current trends in the world, and how they affect our ability to perform some tasks. In this case, we will look at the Internet of Things (IoT) and how we can use different approaches to integrate machine learning and IoT models. Throughout these pages, you will learn: The Fundamentals of Python for Machine Learning Data Analysis in Python Comparing Deep Learning and Machine Learning Machine Learning with Scikit-Learn Deep Learning with TensorFlow Deep Learning with PyTorch and Keras The Role of Machine

Learning in the Internet of Things (IoT) Looking to the Future with Machine Learning And much more... Even if you don't have any background in machine learning and Python programming, this book will give you the tools to develop machine learning models. Arm yourself with all this knowledge! Scroll up and click the BUY NOW BUTTON!

Understand the principles and practices of machine learning and deep learning This hands-on guide lays out machine learning and deep learning techniques and technologies in a style that is approachable, using just the basic math required. Written by a pair of experts in the field, Machine Learning and Deep Learning Using Python and TensorFlow contains case studies in several industries, including banking, insurance, e-commerce, retail, and healthcare. The book shows how to utilize machine learning and deep learning functions in today's smart devices and apps. You will get download links for datasets, code, and sample projects referred to in the text. Coverage includes: Machine learning and deep learning concepts Python programming and statistics fundamentals Regression and logistic regression Decision trees Model selection and cross-validation Cluster analysis Random forests and boosting Artificial neural networks TensorFlow and Keras Deep learning hyperparameters Convolutional neural networks Recurrent neural networks and long short-term memory

Do you want to learn how to write your own codes and programming and get your computer set up to learn just like humans do? Do you want to learn how to write out codes in deep learning-without having to spend years going to school to learn to code and how all this works? Do you know a bit of Python coding and want to learn more about how this deep learning works? This guidebook is the tool that you need to not only learn how to do machine learning but also learn how to take this even further and write some of your own codes in deep learning. The field of deep learning is pretty new, and many programmers have not been able to delve into the depths of what we can see with this type of programming-but with the growing market for products and technology that can act and learn just like the human brain, this field is definitely taking off! This book will take some time to explore the different Python libraries that will help you to do some deep learning algorithms in no time. Investing your time in the Python language and learning the different libraries that are needed to turn this basic programming language into a deep learning machine can be one of the best decisions for you. By learning some of the tips in this book, you will be able to save time and resources when it comes to your deep learning needs. Rather than spending time with other, more difficult programming languages, or having to go take complicated classes to learn how to do these algorithms, we will explore exactly how to do all of the tasks that you need with this type of machine learning. You will learn: 1. What deep learning is, how it is different from machine learning, and why Python is such a beneficial language to use with the deep learning algorithms; 2. The basics of the three main Python languages that will help you get the work done-including TensorFlow, Keras, and PyTorch; 3. How to install the three Python

libraries to help you get started; 4. A closer look at neural networks, what they are, why they are important, and some of the mathematics of making them work; 5. The basics you need to know about TensorFlow and some of the deep learning you can do with this library; 6. The basics of the Keras library and some of the deep learning you can do with this library; 7. A look at the PyTorch library, how it is different from the other two, and the basics of deep learning with this library; 8. And so much more! Even if you are just a beginner, with very little programming knowledge but lots of big dreams and even bigger ideas, this book is going to give you the tools that you need to start with deep learning!

***** Buy now (Will soon return to $47.99 + Special Offer Below) ***** Free Kindle eBook for customers who purchase the print book from Amazon Are you thinking of learning more about Deep Learning From Scratch by using Python and TensorFlow? The overall aim of this book is to give you an application of deep learning techniques with python. Deep Learning is a type of artificial intelligence and machine learning that has become extremely important in the past few years. Deep Learning allows us to teach machines how to complete complex tasks without explicitly programming them to do so. As a result people with the ability to teach machines using deep learning are in extremely high demand. It is also leading to them getting huge increases in salaries. Deep Learning is revolutionizing the world around us and hence the need to understand and learn it becomes significant. In this book we shall cover what is deep learning, how you can get started with deep learning and what deep learning can do for you. By the end of this book you should be able to know what is deep learning and the tools technology and trends driving the artificial intelligence revolution. Several Visual Illustrations and Examples Instead of tough math formulas, this book contains several graphs and images, which detail all-important deep learning concepts and their applications. This Is a Practical Guide Book This book will help you explore exactly the most important deep learning techniques by using python and real data. It is a step-by-step book. You will build our Deep Learning Models by using Python Target Users The book designed for a variety of target audiences. The most suitable users would include: Beginners who want to approach data science, but are too afraid of complex math to start Newbies in computer science techniques and machine learning Professionals in data science and social sciences Professors, lecturers or tutors who are looking to find better ways to explain the content to their students in the simplest and easiest way Students and academicians, especially those focusing on data science What's Inside This Great Book? Introduction Deep Learning Techniques Applications Next Steps Practical Sentiment Analysis using TensorFlow with Neural Networks Performing Sequence Classification with RNNs Implementing Sequence Classification Using RNNs in TensorFlow Glossary of Some Useful Terms in Deep Learning Sources & References Bonus Chapter: Anaconda Setup & Python Crash Course Frequently Asked Questions Q: Is this book for me and do I need programming experience? A: f you want to smash Data Science from scratch, this book is for

you. Little programming experience is required. If you already wrote a few lines of code and recognize basic programming statements, you'll be OK. Q: Can I loan this book to friends? A: Yes. Under Amazon's Kindle Book Lending program, you can lend this book to friends and family for a duration of 14 days. Q: Does this book include everything I need to become a data science expert? A: Unfortunately, no. This book is designed for readers taking their first steps in data science and further learning will be required beyond this book to master all aspects of data science. Q: Can I have a refund if this book is not fitted for me? A: Yes, Amazon refund you if you aren't satisfied, for more information about the amazon refund service please go to the amazon help platform. I will also be happy to help you if you send us an email at customer_service@datasciences-book.com.

Introduction to deep learning and PyTorch by building a convolutional neural network and recurrent neural network for real-world use cases such as image classification, transfer learning, and natural language processing. Key Features Clear and concise explanations Gives important insights into deep learning models Practical demonstration of key concepts Book Description PyTorch is extremely powerful and yet easy to learn. It provides advanced features, such as supporting multiprocessor, distributed, and parallel computation. This book is an excellent entry point for those wanting to explore deep learning with PyTorch to harness its power. This book will introduce you to the PyTorch deep learning library and teach you how to train deep learning models without any hassle. We will set up the deep learning environment using PyTorch, and then train and deploy different types of deep learning models, such as CNN, RNN, and autoencoders. You will learn how to optimize models by tuning hyperparameters and how to use PyTorch in multiprocessor and distributed environments. We will discuss long short-term memory network (LSTMs) and build a language model to predict text. By the end of this book, you will be familiar with PyTorch's capabilities and be able to utilize the library to train your neural networks with relative ease. What you will learn Set up the deep learning environment using the PyTorch library Learn to build a deep learning model for image classification Use a convolutional neural network for transfer learning Understand to use PyTorch for natural language processing Use a recurrent neural network to classify text Understand how to optimize PyTorch in multiprocessor and distributed environments Train, optimize, and deploy your neural networks for maximum accuracy and performance Learn to deploy production-ready models Who this book is for Developers and Data Scientist familiar with Machine Learning but new to deep learning, or existing practitioners of deep learning who would like to use PyTorch to train their deep learning models will find this book to be useful. Having knowledge of Python programming will be an added advantage, while previous exposure to PyTorch is not needed.

Python Machine Learning By Example, Third Edition serves as a comprehensive gateway into the world of machine learning (ML). With six new chapters, on

topics including movie recommendation engine development with Naïve Bayes, recognizing faces with support vector machine, predicting stock prices with artificial neural networks, categorizing images of clothing with convolutional neural networks, predicting with sequences using recurring neural networks, and leveraging reinforcement learning for making decisions, the book has been considerably updated for the latest enterprise requirements. At the same time, this book provides actionable insights on the key fundamentals of ML with Python programming. Hayden applies his expertise to demonstrate implementations of algorithms in Python, both from scratch and with libraries. Each chapter walks through an industry-adopted application. With the help of realistic examples, you will gain an understanding of the mechanics of ML techniques in areas such as exploratory data analysis, feature engineering, classification, regression, clustering, and NLP. By the end of this ML Python book, you will have gained a broad picture of the ML ecosystem and will be well-versed in the best practices of applying ML techniques to solve problems.

Programming With Python - 4 BOOK BUNDLE!! Deep Learning with Keras Here Is a Preview of What You'll Learn Here… The difference between deep learning and machine learning Deep neural networks Convolutional neural networks Building deep learning models with Keras Multi-layer perceptron network models Activation functions Handwritten recognition using MNIST Solving multi-class classification problems Recurrent neural networks and sequence classification And much more... Convolutional Neural Networks in Python Here Is a Preview of What You'll Learn In This Book… Convolutional neural networks structure How convolutional neural networks actually work Convolutional neural networks applications The importance of convolution operator Different convolutional neural networks layers and their importance Arrangement of spatial parameters How and when to use stride and zero-padding Method of parameter sharing Matrix multiplication and its importance Pooling and dense layers Introducing non-linearity relu activation function How to train your convolutional neural network models using backpropagation How and why to apply dropout CNN model training process How to build a convolutional neural network Generating predictions and calculating loss functions How to train and evaluate your MNIST classifier How to build a simple image classification CNN And much, much more! Python Machine Learning Here Is A Preview Of What You'll Learn Here… Basics behind machine learning techniques Different machine learning algorithms Fundamental machine learning applications and their importance Getting started with machine learning in Python, installing and starting SciPy Loading data and importing different libraries Data summarization and data visualization Evaluation of machine learning models and making predictions Most commonly used machine learning algorithms, linear and logistic regression, decision trees support vector machines, k-nearest neighbors, random forests Solving multi-clasification problems Data visualization with Matplotlib and data transformation with Pandas and Scikit-learn Solving multi-label classification problems And

much, much more... Machine Learning With TensorFlow Here Is a Preview of What You'll Learn Here… What is machine learning Main uses and benefits of machine learning How to get started with TensorFlow, installing and loading data Data flow graphs and basic TensorFlow expressions How to define your data flow graphs and how to use TensorBoard for data visualization Main TensorFlow operations and building tensors How to perform data transformation using different techniques How to build high performance data pipelines using TensorFlow Dataset framework How to create TensorFlow iterators Creating MNIST classifiers with one-hot transformation Get this book bundle NOW and SAVE money!

Leverage machine and deep learning models to build applications on real-time data using PySpark. This book is perfect for those who want to learn to use this language to perform exploratory data analysis and solve an array of business challenges. You'll start by reviewing PySpark fundamentals, such as Spark's core architecture, and see how to use PySpark for big data processing like data ingestion, cleaning, and transformations techniques. This is followed by building workflows for analyzing streaming data using PySpark and a comparison of various streaming platforms. You'll then see how to schedule different spark jobs using Airflow with PySpark and book examine tuning machine and deep learning models for real-time predictions. This book concludes with a discussion on graph frames and performing network analysis using graph algorithms in PySpark. All the code presented in the book will be available in Python scripts on Github. What You'll Learn Develop pipelines for streaming data processing using PySpark Build Machine Learning & Deep Learning models using PySpark latest offerings Use graph analytics using PySpark Create Sequence Embeddings from Text data Who This Book is For Data Scientists, machine learning and deep learning engineers who want to learn and use PySpark for real time analysis on streaming data.

Solve different problems in modelling deep neural networks using Python, Tensorflow, and Keras with this practical guide About This Book Practical recipes on training different neural network models and tuning them for optimal performance Use Python frameworks like TensorFlow, Caffe, Keras, Theano for Natural Language Processing, Computer Vision, and more A hands-on guide covering the common as well as the not so common problems in deep learning using Python Who This Book Is For This book is intended for machine learning professionals who are looking to use deep learning algorithms to create real-world applications using Python. Thorough understanding of the machine learning concepts and Python libraries such as NumPy, SciPy and scikit-learn is expected. Additionally, basic knowledge in linear algebra and calculus is desired. What You Will Learn Implement different neural network models in Python Select the best Python framework for deep learning such as PyTorch, Tensorflow, MXNet and Keras Apply tips and tricks related to neural networks internals, to boost learning performances Consolidate machine learning principles and apply them in the deep learning field Reuse and adapt Python code snippets to everyday problems Evaluate the cost/benefits and performance implication of each discussed solution In Detail Deep Learning is revolutionizing a wide range of industries. For many applications, deep learning has proven to outperform humans by making faster and more accurate predictions. This book provides a top-down and bottom-up approach to demonstrate deep learning solutions to real-world problems in different areas. These applications include Computer Vision, Natural Language Processing, Time Series, and Robotics. The Python Deep Learning Cookbook presents technical solutions to the issues presented, along with a detailed explanation of the solutions. Furthermore, a discussion on corresponding pros and cons of implementing the proposed solution using one of the popular frameworks like TensorFlow, PyTorch, Keras and CNTK is

provided. The book includes recipes that are related to the basic concepts of neural networks. All techniques s, as well as classical networks topologies. The main purpose of this book is to provide Python programmers a detailed list of recipes to apply deep learning to common and not-so-common scenarios. Style and approach Unique blend of independent recipes arranged in the most logical manner

Deep Learning with Python, Second Edition is a comprehensive introduction to the field of deep learning using Python and the powerful Keras library. Written by Google AI researcher François Chollet, the creator of Keras, this revised edition has been updated with new chapters, new tools, and cutting-edge techniques drawn from the latest research. You'll build your understanding through practical examples and intuitive explanations that make the complexities of deep learning accessible and understandable. About the TechnologyMachine learning has made remarkable progress in recent years. We've gone from near-unusable speech recognition, to near-human accuracy. From machines that couldn't beat a serious Go player, to defeating a world champion. Medical imaging diagnostics, weather forecasting, and natural language question answering have suddenly become tractable problems. Behind this progress is deep learning--a combination of engineering advances, best practices, and theory that enables a wealth of previously impossible smart applications across every industry sectorAbout the bookDeep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. You'll learn directly from the creator of Keras, François Chollet, building your understanding through intuitive explanations and practical examples. Updated from the original bestseller with over 50% new content, this second edition includes new chapters, cutting-edge innovations, and coverage of the very latest deep learning tools. 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.

Deep learning simplified by taking supervised, unsupervised, and reinforcement learning to the next level using the Python ecosystem Key Features Build deep learning models with transfer learning principles in Python implement transfer learning to solve real-world research problems Perform complex operations such as image captioning neural style transfer Book Description Transfer learning is a machine learning (ML) technique where knowledge gained during training a set of problems can be used to solve other similar problems. The purpose of this book is two-fold; firstly, we focus on detailed coverage of deep learning (DL) and transfer learning, comparing and contrasting the two with easy-to-follow concepts and examples. The second area of focus is real-world examples and research problems using TensorFlow, Keras, and the Python ecosystem with hands-on examples. The book starts with the key essential concepts of ML and DL, followed by depiction and coverage of important DL architectures such as convolutional neural networks (CNNs), deep neural networks (DNNs), recurrent neural networks (RNNs), long short-term memory (LSTM), and capsule networks. Our focus then shifts to transfer learning concepts, such as model freezing, fine-tuning, pre-trained models including VGG, inception, ResNet, and how these systems perform better than DL models with practical examples. In the concluding chapters, we will focus on a multitude of real-world case studies and problems associated with areas such as computer vision, audio analysis and natural language processing (NLP). By the end of this book, you will be able to implement both DL and transfer learning principles in your own systems. What you will learn Set up your own DL environment with graphics processing unit (GPU) and Cloud support Delve into transfer learning principles with ML and DL models Explore various DL architectures, including CNN, LSTM, and capsule networks Learn about data and network representation and loss functions Get to grips with models and strategies in transfer learning Walk through potential challenges in building complex transfer learning models from scratch Explore real-world research problems related to computer vision and audio analysis Understand how transfer learning can

be leveraged in NLP Who this book is for Hands-On Transfer Learning with Python is for data scientists, machine learning engineers, analysts and developers with an interest in data and applying state-of-the-art transfer learning methodologies to solve tough real-world problems. Basic proficiency in machine learning and Python is required.

Unlock modern machine learning and deep learning techniques with Python by using the latest cutting-edge open source Python libraries. About This Book Second edition of the bestselling book on Machine Learning A practical approach to key frameworks in data science, machine learning, and deep learning Use the most powerful Python libraries to implement machine learning and deep learning Get to know the best practices to improve and optimize your machine learning systems and algorithms Who This Book Is For If you know some Python and you want to use machine learning and deep learning, pick up this book. Whether you want to start from scratch or extend your machine learning knowledge, this is an essential and unmissable resource. Written for developers and data scientists who want to create practical machine learning and deep learning code, this book is ideal for developers and data scientists who want to teach computers how to learn from data. What You Will Learn Understand the key frameworks in data science, machine learning, and deep learning Harness the power of the latest Python open source libraries in machine learning Explore machine learning techniques using challenging real-world data Master deep neural network implementation using the TensorFlow library Learn the mechanics of classification algorithms to implement the best tool for the job Predict continuous target outcomes using regression analysis Uncover hidden patterns and structures in data with clustering Delve deeper into textual and social media data using sentiment analysis In Detail Machine learning is eating the software world, and now deep learning is extending machine learning. Understand and work at the cutting edge of machine learning, neural networks, and deep learning with this second edition of Sebastian Raschka's bestselling book, Python Machine Learning. Thoroughly updated using the latest Python open source libraries, this book offers the practical knowledge and techniques you need to create and contribute to machine learning, deep learning, and modern data analysis. Fully extended and modernized, Python Machine Learning Second Edition now includes the popular TensorFlow deep learning library. The scikit-learn code has also been fully updated to include recent improvements and additions to this versatile machine learning library. Sebastian Raschka and Vahid Mirjalili's unique insight and expertise introduce you to machine learning and deep learning algorithms from s ...

Discover powerful ways to effectively solve real-world machine learning problems using key libraries including scikit-learn, TensorFlow, and PyTorch Key Features Learn and implement machine learning algorithms in a variety of real-life scenarios Cover a range of tasks catering to supervised, unsupervised and reinforcement learning techniques Find easy-to-follow code solutions for tackling common and not-so-common challenges Book Description This eagerly anticipated second edition of the popular Python Machine Learning Cookbook will enable you to adopt a fresh approach to dealing with real-world machine learning and deep learning tasks. With the help of over 100 recipes, you will learn to build powerful machine learning applications using modern libraries from the Python ecosystem. The book will also guide you on how to implement various machine learning algorithms for classification, clustering, and recommendation engines, using a recipe-based approach. With emphasis on practical solutions, dedicated sections in the book will help you to apply supervised and unsupervised learning techniques to real-world problems. Toward the concluding chapters, you will get to grips with recipes that teach you advanced techniques including reinforcement learning, deep neural networks, and automated machine learning. By the end of this book, you will be equipped with the skills you need to apply machine learning techniques and leverage the full capabilities of the Python ecosystem through real-world examples. What you will learn Use predictive modeling and apply it to real-world problems Explore data visualization techniques to

interact with your data Learn how to build a recommendation engine Understand how to interact with text data and build models to analyze it Work with speech data and recognize spoken words using Hidden Markov Models Get well versed with reinforcement learning, automated ML, and transfer learning Work with image data and build systems for image recognition and biometric face recognition Use deep neural networks to build an optical character recognition system Who this book is for This book is for data scientists, machine learning developers, deep learning enthusiasts and Python programmers who want to solve real-world challenges using machine-learning techniques and algorithms. If you are facing challenges at work and want ready-to-use code solutions to cover key tasks in machine learning and the deep learning domain, then this book is what you need. Familiarity with Python programming and machine learning concepts will be useful.

Learn how to use TensorFlow 2.0 to build machine learning and deep learning models with complete examples. The book begins with introducing TensorFlow 2.0 framework and the major changes from its last release. Next, it focuses on building Supervised Machine Learning models using TensorFlow 2.0. It also demonstrates how to build models using customer estimators. Further, it explains how to use TensorFlow 2.0 API to build machine learning and deep learning models for image classification using the standard as well as custom parameters. You'll review sequence predictions, saving, serving, deploying, and standardized datasets, and then deploy these models to production. All the code presented in the book will be available in the form of executable scripts at Github which allows you to try out the examples and extend them in interesting ways. What You'll Learn Review the new features of TensorFlow 2.0 Use TensorFlow 2.0 to build machine learning and deep learning models Perform sequence predictions using TensorFlow 2.0 Deploy TensorFlow 2.0 models with practical examples Who This Book Is For Data scientists, machine and deep learning engineers.

Are you a machine learning aspirant? Do you want to learn more about machine learning associated with Python? If yes, this book a great addition to your machine learning book collection. Being one of the most preferred computer languages, from scripting to machine learning, do not be surprised if Python is used everywhere. This programming language is gaining popularity among machine learning professionals. Machine learning, a part of the data science category, takes the Python solutions for making informed decisions by using algorithms. As you probably noticed, many companies invest in a resourced pool related to machine learning. Plus, machine learning is combined with Python to leverage the expected results. Not only does Python gained popularity in different sectors of software development, but it also obtained the leading position in today's machine learning domain. What makes Python well-suited for machine learning projects? This programming language has a perfect mix of consistent syntax, shorter development time, and simplicity. In case you are just about to explore machine learning through Python, this "Python Machine Learning" book is what you need. This book covers: What is machine learning Deep learning and artificial learning Difference between unsupervised learning and supervised learning The advantages of using Python in machine learning How to progress with Python machine learning The main libraries you can use to start machine learning And so much more! Are you excited to learn everything about Python Machine Learning? Then, grab a copy of this book now. Happy reading! Master the essential skills needed to recognize and solve complex problems with machine learning and deep learning. Using real-world examples that leverage the popular Python machine learning ecosystem, this book is your perfect companion for learning the art and science of machine learning to become a successful practitioner. The concepts, techniques, tools, frameworks, and methodologies used in this book will teach you how to think, design, build, and execute machine learning systems and projects successfully. Practical Machine Learning with Python follows a structured and comprehensive three-tiered approach packed

with hands-on examples and code. Part 1 focuses on understanding machine learning concepts and tools. This includes machine learning basics with a broad overview of algorithms, techniques, concepts and applications, followed by a tour of the entire Python machine learning ecosystem. Brief guides for useful machine learning tools, libraries and frameworks are also covered. Part 2 details standard machine learning pipelines, with an emphasis on data processing analysis, feature engineering, and modeling. You will learn how to process, wrangle, summarize and visualize data in its various forms. Feature engineering and selection methodologies will be covered in detail with real-world datasets followed by model building, tuning, interpretation and deployment. Part 3 explores multiple real-world case studies spanning diverse domains and industries like retail, transportation, movies, music, marketing, computer vision and finance. For each case study, you will learn the application of various machine learning techniques and methods. The hands-on examples will help you become familiar with state-of-the-art machine learning tools and techniques and understand what algorithms are best suited for any problem. Practical Machine Learning with Python will empower you to start solving your own problems with machine learning today! What You'll Learn Execute end-to-end machine learning projects and systems Implement hands-on examples with industry standard, open source, robust machine learning tools and frameworks Review case studies depicting applications of machine learning and deep learning on diverse domains and industries Apply a wide range of machine learning models including regression, classification, and clustering. Understand and apply the latest models and methodologies from deep learning including CNNs, RNNs, LSTMs and transfer learning. Who This Book Is For IT professionals, analysts, developers, data scientists, engineers, graduate students Probabilistic Deep Learning is a hands-on guide to the principles that support neural networks. Learn to improve network performance with the right distribution for different data types, and discover Bayesian variants that can state their own uncertainty to increase accuracy. This book provides easy-to-apply code and uses popular frameworks to keep you focused on practical applications. Summary Probabilistic Deep Learning: With Python, Keras and TensorFlow Probability teaches the increasingly popular probabilistic approach to deep learning that allows you to refine your results more quickly and accurately without much trial-and-error testing. Emphasizing practical techniques that use the Python-based Tensorflow Probability Framework, you'll learn to build highly-performant deep learning applications that can reliably handle the noise and uncertainty of real-world data. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology The world is a noisy and uncertain place. Probabilistic deep learning models capture that noise and uncertainty, pulling it into real-world scenarios. Crucial for self-driving cars and scientific testing, these techniques help deep learning engineers assess the accuracy of their results, spot errors, and improve their understanding of how algorithms work. About the book Probabilistic Deep Learning is a hands-on guide to the principles that support neural networks. Learn to improve network performance with the right distribution for different data types, and discover Bayesian variants that can state their own uncertainty to increase accuracy. This book provides easy-to-apply code and uses popular frameworks to keep you focused on practical applications. What's inside Explore maximum likelihood and the statistical basis of deep learning Discover probabilistic models that can indicate possible outcomes Learn to use normalizing flows for modeling and generating complex distributions Use Bayesian neural networks to access the uncertainty in the model About the reader For experienced machine learning developers. About the author Oliver Dürr is a professor at the University of Applied Sciences in Konstanz, Germany. Beate Sick holds a chair for applied statistics at ZHAW and works as a researcher and lecturer at the University of Zurich. Elvis Murina is a data scientist. Table of Contents PART 1 - BASICS OF DEEP LEARNING 1 Introduction to probabilistic deep learning 2 Neural network architectures 3 Principles of curve fitting PART 2 - MAXIMUM

LIKELIHOOD APPROACHES FOR PROBABILISTIC DL MODELS 4 Building loss functions with the likelihood approach 5 Probabilistic deep learning models with TensorFlow Probability 6 Probabilistic deep learning models in the wild PART 3 - BAYESIAN APPROACHES FOR PROBABILISTIC DL MODELS 7 Bayesian learning 8 Bayesian neural networks

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 Franois 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 Franois 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 Franois 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

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, providing a comfortable Python experience that gets you started quickly and then grows with you as you—and your deep learning skills—become more sophisticated. Deep Learning with PyTorch will make that journey engaging and fun. Summary 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, providing a comfortable Python experience that gets you started quickly and then grows with you as you—and your deep learning skills—become more sophisticated. Deep Learning with PyTorch will make that journey engaging and fun. Foreword by Soumith Chintala, Cocreator of PyTorch. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Although many deep learning tools use Python,

the PyTorch library is truly Pythonic. Instantly familiar to anyone who knows PyData tools like NumPy and scikit-learn, PyTorch simplifies deep learning without sacrificing advanced features. It's excellent for building quick models, and it scales smoothly from laptop to enterprise. Because companies like Apple, Facebook, and JPMorgan Chase rely on PyTorch, it's a great skill to have as you expand your career options. It's easy to get started with PyTorch. It minimizes cognitive overhead without sacrificing the access to advanced features, meaning you can focus on what matters the most - building and training the latest and greatest deep learning models and contribute to making a dent in the world. PyTorch is also a snap to scale and extend, and it partners well with other Python tooling. PyTorch has been adopted by hundreds of deep learning practitioners and several first-class players like FAIR, OpenAI, FastAI and Purdue. About the book Deep Learning with PyTorch teaches you to create neural networks and deep learning systems with PyTorch. This practical book quickly gets you to work building a real-world example from scratch: a tumor image classifier. Along the way, it covers best practices for the entire DL pipeline, including the PyTorch Tensor API, loading data in Python, monitoring training, and visualizing results. After covering the basics, the book will take you on a journey through larger projects. The centerpiece of the book is a neural network designed for cancer detection. You'll discover ways for training networks with limited inputs and start processing data to get some results. You'll sift through the unreliable initial results and focus on how to diagnose and fix the problems in your neural network. Finally, you'll look at ways to improve your results by training with augmented data, make improvements to the model architecture, and perform other fine tuning. What's inside Training deep neural networks Implementing modules and loss functions Utilizing pretrained models from PyTorch Hub Exploring code samples in Jupyter Notebooks About the reader For Python programmers with an interest in machine learning. About the author Eli Stevens had roles from software engineer to CTO, and is currently working on machine learning in the self-driving-car industry. Luca Antiga is cofounder of an AI engineering company and an AI tech startup, as well as a former PyTorch contributor. Thomas Viehmann is a PyTorch core developer and machine learning trainer and consultant. 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 ***** BUY NOW (will soon return to 25.89 $)******Free eBook for customers who purchase the print book from Amazon****** Are you thinking of learning more about Machine Learning using Python? (For Beginners) This book would seek to explain common terms and algorithms in an intuitive way. The author used a progressive approach whereby we start out slowly and improve on the complexity of our solutions. From AI Sciences Publisher Our books may be the best one for beginners; it's a step-by-step guide for any person who wants to start learning Artificial Intelligence and Data Science from scratch. It will help you in preparing a solid foundation and learn any other high-level courses.To get the most out of the concepts that would be covered, readers are advised to adopt a hands on approach which would lead to better mental representations. Step By Step Guide and Visual Illustrations and Examples This book and the accompanying examples, you would be well suited to tackle problems which pique your interests using machine learning.Instead of tough math formulas, this book contains several graphs and images which detail all important Machine Learning concepts and their

applications. Target Users The book designed for a variety of target audiences. The most suitable users would include: Anyone who is intrigued by how algorithms arrive at predictions but has no previous knowledge of the field. Software developers and engineers with a strong programming background but seeking to break into the field of machine learning. Seasoned professionals in the field of artificial intelligence and machine learning who desire a bird's eye view of current techniques and approaches. What's Inside This Book? Supervised Learning Algorithms Unsupervised Learning Algorithms Semi-supervised Learning Algorithms Reinforcement Learning Algorithms Overfitting and underfitting correctness The Bias-Variance Trade-off Feature Extraction and Selection A Regression Example: Predicting Boston Housing Prices Import Libraries: How to forecast and Predict Popular Classification Algorithms Introduction to K Nearest Neighbors Introduction to Support Vector Machine Example of Clustering Running K-means with Scikit-Learn Introduction to Deep Learning using TensorFlow Deep Learning Compared to Other Machine Learning Approaches Applications of Deep Learning How to run the Neural Network using TensorFlow Cases of Study with Real Data Sources & References Frequently Asked Questions Q: Is this book for me and do I need programming experience?A: If you want to smash Machine Learning from scratch, this book is for you. If you already wrote a few lines of code and recognize basic programming statements, you'll be OK.Q: Does this book include everything I need to become a Machine Learning expert?A: Unfortunately, no. This book is designed for readers taking their first steps in Machine Learning and further learning will be required beyond this book to master all aspects of Machine Learning.Q: Can I have a refund if this book is not fitted for me?A: Yes, Amazon refund you if you aren't satisfied, for more information about the amazon refund service please go to the amazon help platform. We will also be happy to help you if you send us an email at contact@aisciences.net.AI Sciences Company offers you a free eBooks at http://aisciences.net/free/

Build AI applications using Python to intelligently interact with the world around you. KEY FEATURES ? Covers the practical aspects of Machine Learning and Deep Learning concepts with the help of this example-rich guide to Python. ? Includes graphical illustrations of Natural Language Processing and its implementation in NLTK. ? Covers deep learning models such as R-CNN and YOLO for object recognition and teaches how to build an image classifier using CNN. DESCRIPTION The book 'Learn AI with Python' is intended to provide you with a thorough understanding of artificial intelligence as well as the tools necessary to create your intelligent applications. This book introduces you to artificial intelligence and walks you through the process of establishing an AI environment on a variety of platforms. It dives into machine learning models and various predictive modeling techniques, including classification, regression, and clustering. Additionally, it provides hands-on experience with logic programming, ASR, neural networks, and natural language processing through real-world examples and fully functional Python implementation. Finally, the book deals with profound models of learning such as R-CNN and YOLO. Object detection in images is also explained in detail using Convolutional Neural Networks (CNNs), which are also explained. By the end of this book, you will have a firm grasp of machine learning and deep learning techniques, as well as a steered methodology for formulating and solving related problems. WHAT YOU WILL LEARN ? Learn to implement various machine learning and deep learning algorithms to achieve smart results. ? Understand how ML algorithms can be applied to real-life applications. ? Explore logic programming and learn how to use it practically to solve real-life problems. ? Learn to develop different types of artificial neural networks with Python. ? Understand reinforcement learning and how to build an environment and agents using Python. ? Work with NLTK and build an automatic speech recognition system. WHO THIS BOOK IS FOR This book is for anyone interested in learning about artificial intelligence and putting it into practice with Python. This book is also valuable for intermediate Machine Learning practitioners as a

reference guide. Readers should be familiar with the fundamental understanding of Python programming and machine learning techniques. TABLE OF CONTENTS 1. Introduction to AI and Python 2. Machine Learning and Its Algorithms 3. Classification and Regression Using Supervised Learning 4. Clustering Using Unsupervised Learning 5. Solving Problems with Logic Programming 6. Natural Language Processing with Python 7. Implementing Speech Recognition with Python 8. Implementing Artificial Neural Network (ANN) with Python 9. Implementing Reinforcement Learning with Python 10. Implementing Deep Learning and Convolutional Neural Network

Understand basic to advanced deep learning algorithms, the mathematical principles behind them, and their practical applications. Key Features Get up-to-speed with building your own neural networks from scratch Gain insights into the mathematical principles behind deep learning algorithms Implement popular deep learning algorithms such as CNNs, RNNs, and more using TensorFlow Book Description Deep learning is one of the most popular domains in the AI space, allowing you to develop multi-layered models of varying complexities. This book introduces you to popular deep learning algorithms--from basic to advanced--and shows you how to implement them from scratch using TensorFlow. Throughout the book, you will gain insights into each algorithm, the mathematical principles behind it, and how to implement it in the best possible manner. The book starts by explaining how you can build your own neural networks, followed by introducing you to TensorFlow, the powerful Python-based library for machine learning and deep learning. Moving on, you will get up to speed with gradient descent variants, such as NAG, AMSGrad, AdaDelta, Adam, and Nadam. The book will then provide you with insights into RNNs and LSTM and how to generate song lyrics with RNN. Next, you will master the math for convolutional and capsule networks, widely used for image recognition tasks. Then you learn how machines understand the semantics of words and documents using CBOW, skip-gram, and PV-DM. Afterward, you will explore various GANs, including InfoGAN and LSGAN, and autoencoders, such as contractive autoencoders and VAE. By the end of this book, you will be equipped with all the skills you need to implement deep learning in your own projects. What you will learn Implement basic-to-advanced deep learning algorithms Master the mathematics behind deep learning algorithms Become familiar with gradient descent and its variants, such as AMSGrad, AdaDelta, Adam, and Nadam Implement recurrent networks, such as RNN, LSTM, GRU, and seq2seq models Understand how machines interpret images using CNN and capsule networks Implement different types of generative adversarial network, such as CGAN, CycleGAN, and StackGAN Explore various types of autoencoder, such as Sparse autoencoders, DAE, CAE, and VAE Who this book is for If you are a machine learning engineer, data scientist, AI developer, or simply want to focus on neural networks and deep learning, this book is for you. Those who are completely new to deep learning, but have some experience in machine learning and Python programming, will also find the book very helpful. Python Machine Learning Buy the paperback version and get the eBook for free This book contains: Python Machine Learning: A Deep Dive Into Python Machine Learning and Deep Learning, Using Tensor Flow And Keras: From Beginner To Advance Python: A Complete Step By Step Beginners Guide To Programming With Python No previous experience with Keras, TensorFlow, or machine learning is required. What exactly is machine learning and why is it so valuable in the online business world? Simply put, it is a method of data analysis that uses algorithms that learn from data and produce specific results without being specifically programmed to do so. These algorithms can analyze data, calculate how frequently certain parts of it are used and generate responses based on this calculations in order to automatically interact with users. Throughout the recent years, artificial intelligence and machine learning have made some enormous, significant strides in terms of universal, global applicability. The ability to now be able to apply such algorithms via traditional and new dynamic programming languages allows us to interpret and understand these approaches much more eloquently. The

main topics: -Why Machine Learning -Machine Learning And Artificial Intelligence -Some of the branches of Artificial Intelligence -Keras CNN Model for Deep Learning Predictions on AMZN Applying Logistic Regression to U.S. Equity Markets for Predictive Trading Python Machine Learning Applied To Financial Markets -What Python is and how to get started with it -What input and output mean in Python -The way that Python evolved throughout time After reading this book you will be able to implement machine learning and deep learning using Python While machine and deep learning algorithms have become a common measure for significant model performance across multiple industries, the primary focus of this book will be to better understand how such algorithms are being applied specifically via financial markets through the usage of the Python programming language.

Imagine a world where you can make a computer program learn for itself? What if it could recognize who is in a picture or the exact websites that you want to look for when you type it into the program? What if you were able to create any kind of program that you wanted, even as a beginner programmer, without all of the convoluted codes and other information that makes your head spin? This is actually all possible. The programs that were mentioned before are all a part of machine learning. This is a breakthrough in the world of information technology, which allows the computer to learn how to behave, rather than asking the programmer to think of every single instance that may show up with their user ahead of time. it is taking over the world, and you may be using it now, without even realizing it. If you have used a search engine, worked with photo recognition, or done speech recognition devices on your phone, then you have worked with machine learning. And if you combine it with the Python programming language, it is faster, more powerful, and easier (even for beginners) to create your own programs today. Python is considered the ultimate coding language for beginners, but once you start to use it, you will never be able to tell. Many of the best programs out there use this language behind them, and if you are a beginner who is ready to learn, this is a great place to start. If you have a program in mind, or you just want to be able to get some programming knowledge and learn more about the power that comes behind it, then this is the guidebook for you. ??Some of the topics that we will discuss include?? ? The Fundamentals of Machine Learning, Deep learning, And Neural Networks ? How To Set Up Your Environment And Make Sure That Python, TensorFlow And Scikit-Learn Work Well For You ? How To Master Neural Network Implementation Using Different Libraries ? How Random Forest Algorithms Are Able To Help Out With Machine Learning ? How To Uncover Hidden Patterns And Structures With Clustering ? How Recurrent Neural Networks Work And When To Use ? The Importance Of Linear Classifiers And Why They Need To Be Used In Machine Learning ? And Much More! This guidebook is going to provide you with the information you need to get started with Python Machine Learning. If you have an idea for a great program, but you don't have the technical knowledge to make it happen, then this guidebook will help you get started. Machine learning has the capabilities, and Python has the ease, to help you, even as a beginner, create any product that you would like. If you want to learn more about how to make the best programs with Python Machine learning, buy the book today!

Programming With Python - 8 BOOK BUNDLE!! Deep Learning With Keras Here Is A Preview Of What You'll Learn Here… The difference between deep learning and machine learning Deep neural networks Convolutional neural networks Building deep learning models with Keras Multi-layer perceptron network models And much more... Convolutional Neural Networks In Python Here Is A Preview Of What You'll Learn Here… Convolutional neural networks structure How convolutional neural networks actually work Convolutional neural networks applications The importance of convolution operator How to build a simple image classification CNN And much, much more! Python Machine Learning Here Is A Preview Of What You'll Learn Here… Basics behind machine learning techniques Most commonly used machine learning algorithms, linear and logistic regression, decision trees support vector machines, k-nearest neighbors, random

forests Solving multi-clasification problems Data visualization with Matplotlib and data transformation with Pandas and Scikit-learn Solving multi-label classification problems And much, much more... Machine Learning With TensorFlow Here Is A Preview Of What You'll Learn Here… What is machine learning Main uses and benefits of machine learning How to get started with TensorFlow, installing and loading data Data flow graphs and basic TensorFlow expressions Creating MNIST classifiers with one-hot transformation And much, much more... Data Analytics With Python Here Is A Preview Of What You'll Learn Here… What is Data Analytics? Difference between data science, big data and data analytics Installing python Python data structures Pandas series and data frames And much, much more... Natural Language Processing With Python Here Is A Preview Of What You'll Learn Here… Challenges of natural language processing How natural language processing works? Part of speech tagging N-grams Running natural language processing script And much, much more... DevOps Handbook Here Is A Preview Of What You'll Learn Here… Issues and mistakes plaguing software development What is software development life cycle? How software development life cycle works? The origins of devops Testing and building systems tools And much, much more... DevOps Adoption Here Is A Preview Of What You'll Learn Here… Devops definition Overcoming traditional dev and ops Devops and security integration Devops success factors Is devops right for you? And much, much more... Get this book bundle NOW and SAVE money! With the reinvigoration of neural networks in the 2000s, deep learning is now paving the way for modern machine learning. This practical book provides a solid foundation in how deep learning works for data scientists and software engineers with a background in machine learning. Author Seth Weidman shows you how to implement multilayer neural networks, convolutional neural networks, and recurrent neural networks from scratch. Using these networks as building blocks, you'll learn how to build advanced architectures such as image captioning and Neural Turing machines (NTMs). You'll also explore the math behind the theories.

If you want to learn how to design and master different Machine Learning algorithms quickly and easily, then keep reading. Today, we live in the era of Artificial Intelligence. Self-driving cars, customized product recommendations, real-time pricing, speech and facial recognition are just a few examples proving this truth. Also, think about medical diagnostics or automation of mundane and repetitive labor tasks; all these highlight the fact that we live in interesting times. From research topics to projects and applications in different stages of production, there is a lot going on in the world of Machine Learning. Machines and automation represent a huge part of our daily life. They are becoming part of our experience, and existence. This is Machine Learning. Artificial Intelligence is currently one of the most thriving fields any programmer would wish to delve into, and for a good reason: this is the future! Simply put, Machine Learning is about teaching machines to think and make decisions as we would. The difference between the way machines learn and the way we do is that while for the most part we learn from experiences, machines learn from data. Starting from scratch, Python Machine Learning explains how this happens, how machines build their experience and compounding knowledge. Data forms the core of Machine Learning because within data lie truths whose depths exceed our imagination. The computations machines can perform on data are incredible, beyond anything a human brain could do. Once we introduce data to a machine learning model, we must create an environment where we update the data stream frequently. This builds the machine's learning ability. The more data Machine Learning models are exposed to, the easier it is for these models to

expand their potential. Some of the topics that we will discuss inside include: What is Machine Learning and how it is applied in real-world situations Understanding the differences between Machine Learning, Deep Learning, and Artificial Intelligence Supervised learning, unsupervised learning, and semi-supervised learning The place of Regression techniques in Machine Learning, including Linear Regression in Python Machine learning training models How to use Lists and Modules in Python The 12 essential libraries for Machine Learning in Python What is the Tensorflow library Artificial Neural Networks While most books only focus on widespread details without going deeper into the different models and techniques, Python Machine Learning explains how to master the concepts of Machine Learning technology and helps you to understand how researchers are breaking the boundaries of Data Science to mimic human intelligence in machines using various Machine Learning algorithms. Even if some concepts of Machine Learning algorithms can appear complex to most computer programming beginners, this book takes the time to explain them in a simple and concise way. Would You Like To Know More? Scroll to the top of the page and click the "Buy now" button to get your copy now!

Deep Learning with Python, Second EditionSimon and Schuster

This book includes 9 projects on building smart and practical AI-based systems. These projects cover solutions to different domain-specific problems in healthcare, e-commerce and more. With this book, you will apply different machine learning and deep learning techniques and learn how to build your own intelligent applications for smart ...

Gain expertise in advanced deep learning domains such as neural networks, meta-learning, graph neural networks, and memory augmented neural networks using the Python ecosystem Key Features Get to grips with building faster and more robust deep learning architectures Investigate and train convolutional neural network (CNN) models with GPU-accelerated libraries such as TensorFlow and PyTorch Apply deep neural networks (DNNs) to computer vision problems, NLP, and GANs Book Description In order to build robust deep learning systems, you'll need to understand everything from how neural networks work to training CNN models. In this book, you'll discover newly developed deep learning models, methodologies used in the domain, and their implementation based on areas of application. You'll start by understanding the building blocks and the math behind neural networks, and then move on to CNNs and their advanced applications in computer vision. You'll also learn to apply the most popular CNN architectures in object detection and image segmentation. Further on, you'll focus on variational autoencoders and GANs. You'll then use neural networks to extract sophisticated vector representations of words, before going on to cover various types of recurrent networks, such as LSTM and GRU. You'll even explore the attention mechanism to process sequential data without the help of recurrent neural networks (RNNs). Later, you'll use graph neural networks for processing structured data, along with covering meta-learning, which allows you to train neural networks with fewer training samples. Finally, you'll understand how to apply deep learning to autonomous vehicles. By the end of this book, you'll have mastered key deep learning concepts and the different applications of deep learning models in the real world. What you will learn Cover advanced and state-of-the-art neural network architectures Understand the theory and math behind neural networks Train DNNs and apply them to modern deep learning problems Use CNNs for object detection and image segmentation Implement

generative adversarial networks (GANs) and variational autoencoders to generate new images Solve natural language processing (NLP) tasks, such as machine translation, using sequence-to-sequence models Understand DL techniques, such as meta-learning and graph neural networks Who this book is for This book is for data scientists, deep learning engineers and researchers, and AI developers who want to further their knowledge of deep learning and build innovative and unique deep learning projects. Anyone looking to get to grips with advanced use cases and methodologies adopted in the deep learning domain using real-world examples will also find this book useful. Basic understanding of deep learning concepts and working knowledge of the Python programming language is assumed.

Machine learning is eating the software world. Understand and work at the cutting edge of machine learning, neural networks, and deep learning with this second edition of Sebastian Raschka's bestselling book, Python Machine Learning. Modernized and extended to include the latest open source technologies, including scikit-learn, Keras, and TensorFlow, Python Machine Learning Second Edition offers the practical knowledge and techniques you need to create effective machine learning and deep learning applications in Python. Sebastian Raschka and Vahid Mirjalili's unique insight and expertise introduce you to machine learning and deep learning algorithms, before progressing to advanced topics in data analysis. This book combines the theoretical principles of machine learning with a hands-on coding approach for a thorough grasp of machine learning theory and implementation using Python.

Unlock deeper insights into Machine Leaning with this vital guide to cutting-edge predictive analytics About This Book Leverage Python's most powerful open-source libraries for deep learning, data wrangling, and data visualization Learn effective strategies and best practices to improve and optimize machine learning systems and algorithms Ask – and answer – tough questions of your data with robust statistical models, built for a range of datasets Who This Book Is For If you want to find out how to use Python to start answering critical questions of your data, pick up Python Machine Learning – whether you want to get started from scratch or want to extend your data science knowledge, this is an essential and unmissable resource. What You Will Learn Explore how to use different machine learning models to ask different questions of your data Learn how to build neural networks using Keras and Theano Find out how to write clean and elegant Python code that will optimize the strength of your algorithms Discover how to embed your machine learning model in a web application for increased accessibility Predict continuous target outcomes using regression analysis Uncover hidden patterns and structures in data with clustering Organize data using effective pre-processing techniques Get to grips with sentiment analysis to delve deeper into textual and social media data In Detail Machine learning and predictive analytics are transforming the way businesses and other organizations operate. Being able to understand trends and patterns in complex data is critical to success, becoming one of the key strategies for unlocking growth in a challenging contemporary marketplace. Python can help you deliver key insights into your data – its unique capabilities as a language let you build sophisticated algorithms and statistical models that can reveal new perspectives and answer key questions that are vital for success. Python Machine Learning gives you access to the world of predictive analytics and demonstrates why Python is one of the world's leading data science languages. If you want to ask better

questions of data, or need to improve and extend the capabilities of your machine learning systems, this practical data science book is invaluable. Covering a wide range of powerful Python libraries, including scikit-learn, Theano, and Keras, and featuring guidance and tips on everything from sentiment analysis to neural networks, you'll soon be able to answer some of the most important questions facing you and your organization. Style and approach Python Machine Learning connects the fundamental theoretical principles behind machine learning to their practical application in a way that focuses you on asking and answering the right questions. It walks you through the key elements of Python and its powerful machine learning libraries, while demonstrating how to get to grips with a range of statistical models.

Discover the practical aspects of implementing deep-learning solutions using the rich Python ecosystem. This book bridges the gap between the academic state-of-the-art and the industry state-of-the-practice by introducing you to deep learning frameworks such as Keras, Theano, and Caffe. The practicalities of these frameworks is often acquired by practitioners by reading source code, manuals, and posting questions on community forums, which tends to be a slow and a painful process. Deep Learning with Python allows you to ramp up to such practical know-how in a short period of time and focus more on the domain, models, and algorithms. This book briefly covers the mathematical prerequisites and fundamentals of deep learning, making this book a good starting point for software developers who want to get started in deep learning. A brief survey of deep learning architectures is also included. Deep Learning with Python also introduces you to key concepts of automatic differentiation and GPU computation which, while not central to deep learning, are critical when it comes to conducting large scale experiments. What You Will Learn Leverage deep learning frameworks in Python namely, Keras, Theano, and Caffe Gain the fundamentals of deep learning with mathematical prerequisites Discover the practical considerations of large scale experiments Take deep learning models to production Who This Book Is For Software developers who want to try out deep learning as a practical solution to a particular problem. Software developers in a data science team who want to take deep learning models developed by data scientists to production.

You are interested in becoming a machine learning expert but don't know where to start from? Don't worry you don't need a big boring and expensive Textbook. This book is the best guide for you. Get your copy NOW!! Why this guide is the best one for Data Scientist? Here are the reasons:The author has explored everything about machine learning and deep learning right from the basics. A simple language has been used. Many examples have been given, both theoretically and programmatically. Screenshots showing program outputs have been added. The book is written chronologically, in a step-by-step manner. Book Objectives: The Aims and Objectives of the Book: To help you understand the basics of machine learning and deep learning. Understand the various categories of machine learning algorithms. To help you understand how different machine learning algorithms work. You will learn how to implement various machine learning algorithms programmatically in Python. To help you learn how to use Scikit-Learn and TensorFlow Libraries in Python. To help you know how to analyze data programmatically to extract patterns, trends, and relationships between variables. Who this Book is for? Here are the target readers for this book: Anybody who is a complete beginner to machine learning in Python. Anybody who needs to advance their

programming skills in Python for machine learning programming and deep learning. Professionals in data science. Professors, lecturers or tutors who are looking to find better ways to explain machine learning to their students in the simplest and easiest way. Students and academicians, especially those focusing on neural networks, machine learning, and deep learning. What do you need for this Book? You are required to have installed the following on your computer: Python 3.X Numpy Pandas Matplotlib The Author guides you on how to install the rest of the Python libraries that are required for machine learning and deep learning. What is inside the book: Getting Started Environment Setup Using Scikit-Learn Linear Regression with Scikit-Learn k-Nearest Neighbors Algorithm K-Means Clustering Support Vector Machines Neural Networks with Scikit-learn Random Forest Algorithm Using TensorFlow Recurrent Neural Networks with TensorFlow Linear Classifier This book will teach you machine learning classifiers using scikit-learn and tenserflow . The book provides a great overview of functions you can use to build a support vector machine, decision tree, perceptron, and k-nearest neighbors. Thanks of this book you will be able to set up a learning pipeline that handles input and output data, pre-processes it, selects meaningful features, and applies a classifier on it. This book offers a lot of insight into machine learning for both beginners, as well as for professionals, who already use some machine learning techniques. Concepts and the background of these concepts are explained clearly in this tutorial.

Equipped with the latest updates, this third edition of Python Machine Learning By Example provides a comprehensive course for ML enthusiasts to strengthen their command of ML concepts, techniques, and algorithms.

DescriptionThis book provides the concept of machine learning with mathematical explanation and programming examples. Every chapter starts with fundamentals of the technique and working example on the real-world dataset. Along with the advice on applying algorithms, each technique is provided with advantages and disadvantages on the data.In this book we provide code examples in python. Python is the most suitable and worldwide accepted language for this. First, it is free and open source. It contains very good support from open community. It contains a lot of library, so you don't need to code everything. Also, it is scalable for large amount of data and suitable for big data technologies.This book:Covers all major areas in Machine Learning.Topics are discussed with graphical explanations.Comparison of different Machine Learning methods to solve any problem.Methods to handle real-world noisy data before applying any Machine Learning algorithm.Python code example for each concept discussed.Jupyter notebook scripts are provided with dataset used to test and try the algorithms ContentsIntroduction to Machine Learning Understanding Python Feature Engineering Data VisualisationBasic and Advanced Regression techniquesClassification Un Supervised LearningText AnalysisNeural Network and Deep Learning Recommendation System Time Series Analysis

We are at crossroads in deep learning. Today, deep learning developers typically utilize one of the top two machine learning frameworks: Tensorflow, developed by Google/Deepmind, and PyTorch, developed by Facebook. In industry, Tensorflow is still more widely adopted. Still, PyTorch is rapidly up-and-coming in the research community, where 70%-80% of recently submitted conference research papers utilize PyTorch instead of Tensorflow. A recent 2020 Stack Overflow survey of the most popular frameworks and libraries reported that PyTorch was selected by an est 30% of respondents vs. 70% for Tensorflow, with PyTorch nearly doubling in popularity over the last two years. In the next couple of years, as these machine learning frameworks become equal in popularity, a book must well verse developers in both so they can

choose the right methodology to help solve their deep learning problems. The problem is that most deep learning books published today focus on just one of the machine learning frameworks. Python Deep Learning would identify both frameworks' pros and cons and then teach deep learning concepts utilizing practical examples from the framework best suited for particular problems. This book also features the APIs and libraries integrated with the respective framework, Keras for Tensorflow and fastai for PyTorch, that make application development and deployment even more straightforward. What this Books Covers: Introduction and overview of deep learning concepts Description of the two machine learning frameworks: Tensorflow and PyTorch, as well as successful examples of their usage Detail the pros and cons of each machine learning framework Overview of the supportive libraries and APIs (including Keras and fastai) for each of the frameworks that make application development simpler Chapter-by-chapter review of the top neural network topologies (CNN, RNN, LSTM, MLP, and several newer variants) Interesting code examples of practical applications of the different neural networks, not the same tired MNIST and other examples often utilized today Final series of code examples (in Tensorflow or PyTorch) of real-world deep learning solutions that utilize more exotic neural network topologies

Have you always wanted to learn deep learning but are afraid it'll be too difficult for you? This book is for you.Deep learning is a form of machine learning that enables computers to learn from experience and understand the world in terms of a hierarchy of concepts. Because the computer gathers knowledge from experience, there is no need for a human computer operator to formally specify all the knowledge that the computer needs. The hierarchy of concepts allows the computer to learn complicated concepts by building them out of simpler ones; a graph of these hierarchies would be many layers deep. This book introduces a broad range of topics in deep learning.Book DescriptionPython Machine Learning, is a comprehensive guide to machine learning and deep learning with Python. It acts as both a step-by-step tutorial, and a reference you'll keep coming back to as you build your machine learning systems.Packed with clear explanations, visualizations, and working examples, the book covers most of the essential machine learning techniques in depth. While some books teach you only to follow instructions, with this machine learning book, this tutorial book teaches the principles behind machine learning, allowing you to build models and applications for yourself. Updated for TensorFlow, skit-learn, Keras, and theano, this edition introduces readers to its new Keras API features, as well as the latest additions to scikit-learn. It's also expanded to cover cutting-edge reinforcement learning techniques based on deep learning, as well as an introduction to GANs. Finally, this book also explores analysis by giving some examples, helping you learn how to use machine learning algorithms to classify or predict documents output.This book is your companion to machine learning with Python, whether you're a Python developer new to machine learning or want to deepen your knowledge of the latest developments.What you will learn-Master the frameworks, models, and techniques that enable machines to 'learn' from data-Use scikit-learn for machine learning and TensorFlow for deep learning-Apply machine learning to classification, predict predict customer churning, and more-Build and train neural networks, GANs, CNN, and other models-Discover best practices for evaluating and tuning models-Predict target outcomes using optimization algorithm such as Gradient Descent algorithm analysis-Overcome challenges in deep learning algorithms by using dropout, regulation-Who This Book Is ForIf you know some Python and you want to use machine learning and deep learning, pick up this book. Whether you want to start from scratch or extend your machine learning knowledge, this is an essential resource. Written for developers and data scientists who want to create practical machine learning and deep learning code, this book is ideal for anyone who wants to teach computers how to learn from data.Table of Contents1.Giving Computers the Ability to Learn from Data2.Training Simple ML Algorithms for Classification3.ML Classifiers Using scikit-learn4.Building Good Training

Datasets - Data Preprocessing5.Compressing Data via Dimensionality Reduction6.Best Practices for Model Evaluation and Hyperparameter Tuning7.Combining Different Models for Ensemble Learning8.Predicting Continuous Target Variables with supversized learning 9.Implementing Multilayer Artificial Neural Networks10.Modeling Sequential Data Using Recurrent Neural Networks11.GANs for Synthesizing New Data...and so much more....In every chapter, you can edit the examples online

Practical Deep Learning teaches total beginners how to build the datasets and models needed to train neural networks for your own DL projects. If you've been curious about machine learning but didn't know where to start, this is the book you've been waiting for. Focusing on the subfield of machine learning known as deep learning, it explains core concepts and gives you the foundation you need to start building your own models. Rather than simply outlining recipes for using existing toolkits, Practical Deep Learning teaches you the why of deep learning and will inspire you to explore further. All you need is basic familiarity with computer programming and high school math—the book will cover the rest. After an introduction to Python, you'll move through key topics like how to build a good training dataset, work with the scikit-learn and Keras libraries, and evaluate your models' performance. You'll also learn: • How to use classic machine learning models like k-Nearest Neighbors, Random Forests, and Support Vector Machines • How neural networks work and how they're trained • How to use convolutional neural networks • How to develop a successful deep learning model from scratch You'll conduct experiments along the way, building to a final case study that incorporates everything you've learned. The perfect introduction to this dynamic, ever-expanding field, Practical Deep Learning will give you the skills and confidence to dive into your own machine learning projects.

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