

Getting Started With Tensorflow

Then, you'll move on to the money chapters: exploration of deep-learning concepts like autoencoders, recurrent neural networks, and reinforcement learning. About the Book Machine Learning with TensorFlow gives readers a solid foundation in machine-learning concepts plus hands-on experience coding TensorFlow with Python. Senior technical editor, Kenneth Fricklas, is a seasoned developer, author, and machine-learning practitioner. What's Inside Matching your tasks to the right machine-learning and deep-learning approaches Visualizing algorithms with TensorBoard Understanding and using neural networks About the Reader Written for developers experienced with Python and algebraic concepts like vectors and matrices. Digest this book and you will be ready to use TensorFlow for machine-learning and deep-learning applications of your own. About the Author Author Nishant Shukla is a computer vision researcher focused on applying machine-learning techniques in robotics. Summary Machine Learning with TensorFlow gives readers a solid foundation in machine-learning concepts plus hands-on experience coding TensorFlow with Python. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology TensorFlow, Google's library for large-scale machine learning, simplifies often-complex computations by representing them as graphs and efficiently mapping parts of the graphs to machines in a cluster or to the processors of a single machine. Table of Contents PART 1 - YOUR MACHINE-LEARNING RIG A machine-learning odyssey TensorFlow essentials PART 2 - CORE LEARNING ALGORITHMS Linear regression and beyond A gentle introduction to classification Automatically clustering data Hidden Markov models PART 3 - THE NEURAL NETWORK PARADIGM A peek into autoencoders Reinforcement learning Convolutional neural networks Recurrent neural networks Sequence-to-sequence models for chatbots Utility landscape. You'll learn the basics by working with classic prediction, classification, and clustering algorithms

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You will perform popular supervised machine learning tasks using techniques such as linear regression, logistic regression, and clustering. By the end of the book, you will have been exposed to a large variety of machine learning and neural network TensorFlow techniques. Keras for fast prototyping, building, and training deep learning neural network models Easily convert your TensorFlow 1. Exposure to machine learning and neural network techniques would also be helpful. What you will learn Use tf. After giving you an overview of what's new in TensorFlow 2. 6 or later, along with a familiarity with Jupyter notebooks will be an added advantage. 0-

compatible files Use TensorFlow to tackle traditional supervised and unsupervised machine learning applications Understand image recognition techniques using TensorFlow Perform neural style transfer for image hybridization using a neural network Code a recurrent neural network in TensorFlow to perform text-style generation Who this book is for Data scientists, machine learning developers, and deep learning enthusiasts looking to quickly get started with TensorFlow 2 will find this book useful. With this book, you will improve your knowledge of some of the latest TensorFlow features and will be able to perform supervised and unsupervised machine learning and also train neural networks. 0 Alpha Book Description TensorFlow is one of the most popular machine learning frameworks in Python. Some Python programming experience with version 3. You will get familiar with unsupervised learning for autoencoder applications. Perform supervised and unsupervised machine learning and learn advanced techniques such as training neural networks. 12 applications to TensorFlow 2. 0 Alpha, the book moves on to setting up your machine learning environment using the TensorFlow library. The book will also show you how to train effective neural networks using straightforward examples in a variety of different domains. Key Features Train your own models for effective prediction, using high-level Keras API Perform supervised and unsupervised machine learning and learn advanced techniques such as training neural networks Get acquainted with some new practices introduced in TensorFlow 2 56558d536d

By the end of this book, you will have a firm understanding of the basics of deep learning and neural network modeling, along with their practical applications. Get to grips with the essentials of deep learning by leveraging the power of Python Key Features Your one-stop solution to get started with the essentials of deep learning and neural network modeling Train different kinds of neural networks to tackle various problems in Natural Language Processing, computer vision, speech recognition, and more Covers popular Python libraries such as Tensorflow, Keras, and more, along with tips on training, deploying and optimizing your deep learning models in the best possible manner Book Description Deep Learning a trending topic in the field of Artificial Intelligence today and can be considered to be an advanced form of machine learning, which is quite tricky to master. As the models in the book are trained using the popular Python-based libraries such as Tensorflow and Keras, it would be useful to have sound programming knowledge of Python. You will model, train, and deploy different kinds of neural networks such as Convolutional Neural Network, Recurrent Neural Network, and will see some of their applications in real-world domains including computer vision, natural language processing, speech recognition, and so on. You will build practical projects such as chatbots, implement reinforcement learning to build smart games, and develop expert systems for image captioning and processing. Popular Python library such as TensorFlow is used in this book to build the models. This book will help you take your first steps in training efficient deep learning models and applying them in various practical scenarios. If you are looking for a resource that gets you up and running with the fundamentals of deep learning and neural networks, this book is for you. What you will learn Get to grips with the core concepts of deep learning and neural networks Set up deep learning library such as TensorFlow Fine-tune

your deep learning models for NLP and Computer Vision applications Unify different information sources, such as images, text, and speech through deep learning Optimize and fine-tune your deep learning models for better performance Train a deep reinforcement learning model that plays a game better than humans Learn how to make your models get the best out of your GPU or CPU Who this book is for Aspiring data scientists and machine learning experts who have limited or no exposure to deep learning will find this book to be very useful. This book does not assume any prior knowledge of deep learning. This book also covers solutions for different problems you might come across while training models, such as noisy datasets, small datasets, and more 56558d536d

Formulate and devise selective algorithms and techniques in your applications in no time. Prior knowledge of machine learning and deep learning concepts (as well as exposure to Python programming) will be useful. Finally, you will also learn how to train a car to drive autonomously in the Torcs racing car simulator. Leverage the power of Tensorflow to Create powerful software agents that can self-learn to perform real-world tasks Key FeaturesExplore efficient Reinforcement Learning algorithms and code them using TensorFlow and PythonTrain Reinforcement Learning agents for problems, ranging from computer games to autonomous driving. The book starts by introducing you to essential Reinforcement Learning concepts such as agents, environments, rewards, and advantage functions. You will also learn about several Reinforcement Learning algorithms, such as SARSA, Deep Q-Networks (DQN), Deep Deterministic Policy Gradients (DDPG), Asynchronous Advantage Actor-Critic (A3C), Trust Region Policy Optimization (TRPO), and Proximal Policy Optimization (PPO). The book will also show you how to code these algorithms in TensorFlow and Python and apply them to solve computer games from OpenAI Gym. What you will learnUnderstand the theory and concepts behind modern Reinforcement Learning algorithmsCode state-of-the-art Reinforcement Learning algorithms with discrete or continuous actionsDevelop Reinforcement Learning algorithms and apply them to training agents to play computer gamesExplore DQN, DDQN, and Dueling architectures to play Atari's Breakout using TensorFlowUse A3C to play CartPole and LunarLanderTrain an agent to drive a car autonomously in a simulatorWho this book is for Data scientists and AI developers who wish to quickly get started with training effective reinforcement learning models in TensorFlow will find this book very useful. You will also master the distinctions between on-policy and off-policy algorithms, as well as model-free and model-based algorithms. By the end of the book, you will be able to design, build, train, and evaluate feed-forward neural networks and convolutional neural networks. You will also have mastered coding state-of-the-art algorithms and also training agents for various control problems. Book Description Advances in reinforcement learning algorithms have made it possible to use them for optimal control in several different industrial applications. With this book, you will apply Reinforcement Learning to a range of problems, from computer games to autonomous driving 56558d536d

As you progress further, you'll learn to implement various machine learning techniques such as classification, clustering, neural networks, and deep learning through practical examples. Those with basic knowledge of programming (Python and C/C++) and math concepts who want to be introduced to the topics of machine learning will find this book useful. - Dive into the next generation of numerical computing and get the most out of your data with this quick guideWho This Book Is ForThis book is dedicated to all the machine learning and deep learning enthusiasts, data scientists, researchers, and even students who want to perform more accurate, fast machine learning operations with TensorFlow. The examples in the book are from the core of the computation industry-something you can connect to and will find familiar. Get up and running with the latest numerical computing library by Google and dive deeper into your data. What You Will Learn- Install and adopt TensorFlow in your Python environment to solve mathematical problems- Get to know the basic machine and deep learning concepts- Train and test neural networks to fit your data model- Make predictions using regression algorithms- Analyze your data with a clustering procedure- Develop algorithms for clustering and data classification- Use GPU computing to analyze big dataIn DetailGoogle's TensorFlow engine, after much fanfare, has evolved in to a robust, user-friendly, and customizable, application-grade software library of machine learning (ML) code for numerical computation and neural networks. You will get to know everything that can be done with TensorFlow and we'll show you how to implement it in your environment. This book will acquaint you with an all-new refreshing library-TensorFlow. In the first few chapters, you'll gain familiarity with the framework and perform the mathematical operations required for data analysis. By the end of this book, you'll have gained hands-on experience of using TensorFlow and building classification, image recognition systems, language processing, and information retrieving systems for your application. This book takes you through the practical software implementation of various machine learning techniques with TensorFlow. Style and approachGet quickly up and running with TensorFlow using this fast-paced guide. About This Book- Get the first book on the market that shows you the key aspects TensorFlow, how it works, and how to use it for the second generation of machine learning- Want to perform faster and more accurate computations in the field of data science 56558d536d

Now, even programmers who know close to nothing about this technology can use simple, efficient tools to implement programs capable of learning from data. Explore the machine learning landscape, particularly neural nets Use Scikit-Learn to track an example machine-learning project end-to-end Explore several training models, including support vector machines, decision trees, random forests, and ensemble methods Use the TensorFlow library to build and train neural nets Dive into neural net architectures, including convolutional nets, recurrent nets, and deep reinforcement learning Learn techniques for training and scaling deep neural nets. With exercises in each chapter to help you apply what you've learned, all you need is programming experience to get started. You'll learn a range of techniques, starting with simple linear regression and progressing to deep neural networks. By using concrete examples, minimal theory, and two production-ready Python frameworks—Scikit-Learn and TensorFlow—author Aurélien Géron helps you gain an intuitive understanding

of the concepts and tools for building intelligent systems. This practical book shows you how. Through a series of recent breakthroughs, deep learning has boosted the entire field of machine learning 56558d536d

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. With this book as your guide, you will get your hands on TensorFlow machine learning techniques, learn how to perform different neural network operations, learn how to deal with massive datasets and finally build your first machine learning model for data classification. 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-clasifcation problems Data visualization with Matplotlib and data transformation with Pandas and Scikit-learn Solving multi-label classification problems And much, much more. With its powerful resources, TensorFlow is perfect for machine learning enthusiasts offering plenty of workspace where you can improve your machine learning techniques and build your own machine learning algorithms. Python Machine Learning Machine learning is the science of getting machines and computers to act and learn on their own without being programmed explicitly. Machine Learning - 2 BOOK BUNDLE. Therefore, there is no wondering why machine learning is so pervasive today. In just the past decade, this field has given us practical speech recognition, self-driving cars, greatly improved understanding of the overall human genome, effective web search and much more. You will also gain practice as you implement the most popular machine learning techniques on some real-world examples and you will learn both about the theoretical and practical machine learning implementation using Python's machine learning libraries. At the end of the book, you will be able to cope with more complex machine learning issues solving your own problems using Python and its libraries specifically crafted for machine learning. Machine Learning with TensorFlow TensorFlow is a powerful open source software library for performing various numerical data flow graphs. In this book, you will learn more about interpreting machine learning techniques using Python. Thanks to its capability, in recent times TensorFlow definitely has made its way into the software mainstream, so everyone who is interested in machine learnings definitely should considers getting hands on TensorFlow practices 56558d536d

Therefore, a lot of detail is spent on helping the reader to write his or her first deep network classifier. Many people use SKlearn and I have therefore tried to use this library in the Tensorflow examples so that the focus is mainly on creating the deep layer network architectures. It seems that the dream of true AI is finally just around the corner. Ever since 2007 with the explosion in the use of parallel hardware, the field of machine learning has become more exciting and more promising. But more recently many others in the health-care and cyber security industries are also interested in what AI and machine learning can do for them. Some of these technologies such as Tensorflow (which came about around 2015) are new and not widely understood. There are many topics I do not cover here as too much material can be overwhelming to the un-initiated. These include companies in search like Facebook, Google, as well as retailers and multimedia companies like Amazon and Netflix. Additionally, I will try to connect several elements in machine learning which I think are related and are very important for data analysis and automatic classification. Instead, the goal in this book is to help people new to deep learning to quickly get started with these concepts using python and Tensorflow. I will also use the more common libraries and the Linux development environment. There are many good books that cover all the theory in depth and I will mention some of them in the book.

Certainly, there are many companies that are starting to rely heavily on AI for their products. In this book I hope to provide basic discussions of machine learning and in particular deep learning to help readers to quickly get started in using these technologies. In general, I prefer python and I will try to present all examples using this great language. The book is not a comprehensive survey on deep learning 56558d536d

Some familiarity with C++ or Python is assumed. Dan then shows you various complex algorithms for deep learning and various examples that use these deep neural networks. Style and Approach This book is your go-to guide to becoming a deep learning expert in your organization. With the help of novel practical examples, you will become an ace at advanced multilayer networks, image recognition, and beyond. About This Book Explore various possibilities with deep learning and gain amazing insights from data using Google's brainchild-- TensorFlow Want to learn what more can be done with deep learning. Dan helps you evaluate common and not-so-common deep neural networks with the help of insightful examples that you can relate to, and show how they can be exploited in the real world with complex raw data. Explore various neural networks with the help of this comprehensive guide Rich in concepts, advanced guide on deep learning that will give you background to innovate in your environment Who This Book Is For If you are a data scientist who performs machine learning on a regular basis, are familiar with deep neural networks, and now want to gain expertise in working with convoluted neural networks, then this book is for you. Dan Van Boxel will be your guide to exploring the possibilities with deep learning; he will enable you to understand data like never before. What You Will Learn Set up your computing environment and install TensorFlow Build simple TensorFlow graphs for everyday computations Apply logistic regression for classification with TensorFlow Design and train a multilayer neural network with TensorFlow Intuitively understand convolutional neural networks for image

recognition Bootstrap a neural network from simple to more accurate models See how to use TensorFlow with other types of networks Program networks with SciKit-Flow, a high-level interface to TensorFlow In Detail Dan Van Boxel's Deep Learning with TensorFlow is based on Dan's best-selling TensorFlow video course. In this book, Dan shares his knowledge across topics such as logistic regression, convolutional neural networks, recurrent neural networks, training deep networks, and high level interfaces. With deep learning going mainstream, making sense of data and getting accurate results using deep networks is possible. You will also learn how to train your machine to craft new features to make sense of deeper layers of data. With Dan's guidance, you will dig deeper into the hidden layers of abstraction using raw data. With the efficiency and simplicity of TensorFlow, you will be able to process your data and gain insights that will change how you look at data. This book is your guide to exploring the possibilities in the field of deep learning, making use of Google's TensorFlow. You will learn about convolutional neural networks, and logistic regression while training models for deep learning to gain key insights into your data 56558d536d

0 and putting them into production. This book covers machine learning with a focus on developing neural network-based solutions. 0 to speed up developmentUse TensorFlow Datasets (tfds) and the tf. 0 tools such as TensorFlow Datasets and TensorFlow Hub. data API to build high-efficiency data input pipelinesPerform transfer learning and fine-tuning with TensorFlow HubDefine and train networks to solve object detection and semantic segmentation problemsTrain Generative Adversarial Networks (GANs) to generate images and data distributionsUse the SavedModel file format to put a model, or a generic computational graph, into productionWho this book is for If you're a developer who wants to get started with machine learning and TensorFlow, or a data scientist interested in developing neural network solutions in TF 2. As you advance, you'll learn how to create classifiers, build object detection and semantic segmentation networks, train generative models, and speed up the development process using TF 2. 0Solve any deep learning problem by developing neural network-based solutions using TF 2. 0Book Description TensorFlow, the most popular and widely used machine learning framework, has made it possible for almost anyone to develop machine learning solutions with ease. Experienced machine learning engineers who want to master the new features of the TensorFlow framework will also find this book useful. A comprehensive guide to developing neural network-based solutions using TensorFlow 2. 0, this book is for you. By the end of this TensorFlow book, you'll be ready to solve any machine learning problem by developing solutions using TF 2. What you will learnGrasp machine learning and neural network techniques to solve challenging tasksApply the new features of TF 2. You'll start by getting familiar with the concepts and techniques required to build solutions to deep learning problems. 0 Key FeaturesUnderstand the basics of machine learning and discover the power of neural networks and deep learningExplore the structure of the TensorFlow framework and understand how to transition to TF 2. Basic knowledge of calculus and a strong understanding of Python programming will help you grasp the topics covered in this book. 0, you'll explore a revamped framework structure, offering a wide variety of new features aimed at improving productivity and ease

of use for developers. With TensorFlow (TF) 2 56558d536d

Deep Learning with Python 56558d536d

Discover how to attain deep learning programming on GPU in a distributed way. You'll come away with an in-depth knowledge of machine learning techniques and the skills to apply them to real-world projects. This book is conceived for developers, data analysts, machine learning practitioners and deep learning enthusiasts who want to build powerful, robust, and accurate predictive models with the power of TensorFlow, combined with other open source Python libraries. Some competence in mathematics is needed to the level of elementary linear algebra and calculus. What you will learn Apply deep machine intelligence and GPU computing with TensorFlow Access public datasets and use TensorFlow to load, process, and transform the data Discover how to use the high-level TensorFlow API to build more powerful applications Use deep learning for scalable object detection and mobile computing Train machines quickly to learn from data by exploring reinforcement learning techniques Explore active areas of deep learning research and applications Who this book is for The book is for people interested in machine learning and machine intelligence. Throughout the book, you'll learn how to develop deep learning applications for machine learning systems using Feedforward Neural Networks, Convolutional Neural Networks, Recurrent Neural Networks, Autoencoders, and Factorization Machines. Delve into neural networks, implement deep learning algorithms, and explore layers of data abstraction with the help of TensorFlow. A rudimentary level of programming in one language is assumed, as is a basic familiarity with computer science techniques and technologies, including a basic awareness of computer hardware and algorithms. Key Features Learn how to implement advanced techniques in deep learning with Google's brainchild, TensorFlow Explore deep neural networks and layers of data abstraction with the help of this comprehensive guide Gain real-world contextualization through some deep learning problems concerning research and application Book Description Deep learning is a branch of machine learning algorithms based on learning multiple levels of abstraction. Neural networks, which are at the core of deep learning, are being used in predictive analytics, computer vision, natural language processing, time series forecasting, and to perform a myriad of other complex tasks 56558d536d

This book contains easy-to-follow recipes for leveraging TensorFlow 2. You'll discover how to implement advanced deep reinforcement learning algorithms such as actor-critic, deep deterministic policy gradients, deep-Q networks, proximal policy optimization, and deep recurrent Q-networks for training your RL agents. x, the book covers OpenAI Gym, model-based RL, model-free RL, and how to develop basic agents. x and Keras API Implement state-of-the-art deep reinforcement learning algorithms using minimal code Build, train, and package deep RL agents for cryptocurrency and stock trading Deploy RL agents to the cloud and edge to test them by creating desktop,

web, and mobile apps and cloud servicesSpeed up agent development using distributed DNN model trainingExplore distributed deep RL architectures and discover opportunities in AIaaS (AI as a Service)Who this book is for The book is for machine learning application developers, AI and applied AI researchers, data scientists, deep learning practitioners, and students with a basic understanding of reinforcement learning concepts who want to build, train, and deploy their own reinforcement learning systems from scratch using TensorFlow 2. By the end of this TensorFlow book, you'll have gained a solid understanding of deep reinforcement learning algorithms and their implementations from scratch. x is the latest major release of the most popular deep learning framework used to develop and train deep neural networks (DNNs). Finally, you'll find out how to deploy deep reinforcement learning agents to the cloud and build cross-platform apps using TensorFlow 2. x to develop artificial intelligence applications. x. TensorFlow 2. Starting with an introduction to the fundamentals of deep reinforcement learning and TensorFlow 2. As you advance, you'll explore the applications of reinforcement learning by building cryptocurrency trading agents, stock/share trading agents, and intelligent agents for automating task completion. What you will learnBuild deep reinforcement learning agents from scratch using the all-new TensorFlow 2. x. Discover recipes for developing AI applications to solve a variety of real-world business problems using reinforcement learning Key FeaturesDevelop and deploy deep reinforcement learning-based solutions to production pipelines, products, and servicesExplore popular reinforcement learning algorithms such as Q-learning, SARSA, and the actor-critic methodCustomize and build RL-based applications for performing real-world tasksBook Description With deep reinforcement learning, you can build intelligent agents, products, and services that can go beyond computer vision or perception to perform actions 56558d536d

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-clasisfication problems Data visualization with Matplotlib and data transformation with Pandas and Scikit-learn Solving multi-label classification problems And much, much more. 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. 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. 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. Programming With Python - 4 BOOK BUNDLE 56558d536d

As you progress, you'll experiment with different TensorFlow development tools, including TensorBoard, TensorFlow Hub, and Google Colab, before moving on to solve regression and classification problems with sequential models. Basic knowledge of Python programming and its libraries, as well as a general understanding of the fundamentals of data science and machine learning, will help you grasp the topics covered in this book more easily. Building on this solid foundation, you'll learn how to tune models and work with different types of neural network, getting hands-on with real-world deep learning applications such as text encoding, temperature forecasting, image augmentation, and audio processing. Combining clear explanations, realistic examples, and plenty of hands-on practice, it'll quickly get you up and running. By the end of this deep learning book, you'll have the skills, knowledge, and confidence to tackle your own ambitious deep learning projects with TensorFlow. What you will learnGet to grips with TensorFlow's mathematical operationsPre-process a wide variety of tabular, sequential, and image dataUnderstand the purpose and usage of different deep learning layersPerform hyperparameter-tuning to prevent overfitting of training dataUse pre-trained models to speed up the development of learning modelsGenerate new data based on existing patterns using generative modelsWho this book is for This TensorFlow book is for anyone who wants to develop their understanding of deep learning and get started building neural networks with TensorFlow. If this sounds familiar to you, The TensorFlow Workshop is here to help. Get started with TensorFlow fundamentals to build and train deep learning models with real-world data, practical exercises, and challenging activities Key FeaturesUnderstand the fundamentals of tensors, neural networks, and deep learningDiscover how to implement and fine-tune deep learning models for real-world datasetsBuild your experience and confidence with hands-on exercises and activitiesBook Description Getting to grips with tensors, deep learning, and neural networks can be intimidating and confusing for anyone, no matter their experience level. The breadth of information out there, often written at a very high level and aimed at advanced practitioners, can make getting started even more challenging. You'll start off

with the basics – learning how to load data into TensorFlow, perform tensor operations, and utilize common optimizers and activation functions 56558d536d

And the era of big data technology presents vast opportunities for incredible innovations in deep learning. You don't need to spend an extra cent. Deep Learning, essentially, is a subset of Machine Learning, but it's capable of achieving tremendous power and flexibility. Since all the codes and datasets are included with this book, you only need access to a computer with the internet to get started. Even if you are new to Python, you will find the crash course on Python programming language in the first chapter immensely useful. Another advantage is a detailed explanation of the installation steps for the software that you will need to implement the various deep learning algorithms in this book is provided. In 2020, Deep Learning is leagues ahead because of its supremacy when it comes to accuracy, especially when trained with enormous amounts of data. Artificial intelligence is the rage today. The key advantage of buying this book is you get instant access to all the extra content presented with this book--Python codes, references, exercises, and PDFs--on the publisher's website. How Is This Book Different. This book gives equal importance to the theoretical as well as practical aspects of deep learning.

Each chapter contains exercises that you can use to assess your understanding of the concepts explained in that chapter. You will understand how high-performing deep learning algorithms work. In every chapter, the theoretical explanation of the different types of deep learning techniques is followed by practical examples. That is, you get to experiment with the practical aspects of Deep Learning right from page 1. While you may find it difficult to understand the most recent advancements in AI, it simply boils down to two most celebrated developments: Machine Learning and Deep Learning. The datasets used in this book are either downloaded at runtime or are available in the Resources/Datasets folder. The topics covered include: Python Crash Course Deep Learning Prerequisites: Linear and Logistic Regression Neural Networks from Scratch in Python Introduction to TensorFlow and Keras Convolutional Neural Networks Sequence Classification with Recurrent Neural Networks Deep Learning for Natural Language Processing Unsupervised Learning with Autoencoders Answers to All Exercises Click the BUY button and download the book now to start your Deep Learning journey. Also, in the Resources, the Python notebook for each chapter is provided. You will learn how to implement different deep learning techniques using the TensorFlow Keras library for Python 56558d536d

Offering uncompromising production-quality scalability, modularity, and responsiveness, TensorFlow. Written by the main authors of the TensorFlow library, this new book provides fascinating use cases and in-depth instruction for deep learning apps in JavaScript in your browser or on Node. This book is based in part on the classic, Deep Learning with Python by François Chollet. js. js, now JavaScript developers can build deep learning apps without relying on Python or R. This fast-paced book, written by Google engineers, is practical, engaging, and easy to follow. JS 2 • Getting started: Simple linear regression in TensorFlow. Thanks to TensorFlow. Its models run

anywhere JavaScript runs, pushing ML farther up the application stack. About the book In Deep Learning with JavaScript, you'll learn to use TensorFlow. With the TensorFlow.js really shines for its portability. Through diverse examples featuring text analysis, speech processing, image recognition, and self-learning game AI, you'll master all the basics of deep learning and explore advanced concepts, like retraining existing models for transfer learning and image generation. What's inside - Image and language processing in the browser - Tuning ML models with client-side data - Text and image creation with generative deep learning - Source code samples to test and modify About the reader For JavaScript programmers interested in deep learning. Foreword by Nikhil Thorat and Daniel Smilkov. TOC: PART 1 - MOTIVATION AND BASIC CONCEPTS 1 • Deep learning and JavaScript PART 2 - A GENTLE INTRODUCTION TO TENSORFLOW.JS 6 • Working with data 7 • Visualizing data and models 8 • Underfitting, overfitting, and the universal workflow of machine learning 9 • Deep learning for sequences and text 10 • Generative deep learning 11 • Basics of deep reinforcement learning PART 4 - SUMMARY AND CLOSING WORDS 12 • Testing, optimizing, and deploying models 13 • Summary, conclusions, and beyond. Deep Learning with JavaScript shows developers how they can bring DL technology to the web. js to build deep learning models that run directly in the browser. About the author Shanging Cai, Stanley Bileschi and Eric D. js library, you build and train deep learning models with JavaScript. Nielsen are software engineers with experience on the Google Brain team, and were crucial to the development of the high-level API of TensorFlow.js 3 • Adding nonlinearity: Beyond weighted sums 4 • Recognizing images and sounds using convnets 5 • Transfer learning: Reusing pretrained neural networks PART 3 - ADVANCED DEEP LEARNING WITH TENSORFLOW. About the technology Running deep learning applications in the browser or on Node-based backends opens up exciting possibilities for smart web applications. Summary Deep learning has transformed the fields of computer vision, image processing, and natural language applications 56558d536d

If you know what deep learning is but are not quite sure of how to use it, this book will help you as well. It introduces you to Tensorflow, the most widely used machine learning library for training deep learning models. You will then work on your first deep learning problem by training a deep feed-forward neural network for digit classification, and move on to tackle other real-world problems in computer vision, language processing, sentiment analysis, and more. An understanding of statistics and data science concepts is required. Some familiarity with Python programming will also be beneficial. What you will learn Understand the fundamentals of deep learning and how it is different from machine learning Get familiarized with Tensorflow, one of the most popular libraries for advanced machine learning Increase the predictive power of your model using feature engineering Understand the basics of deep learning by solving a digit classification problem of MNIST Demonstrate face generation based on the CelebA database, a promising application of generative models Apply deep learning to other domains like language modeling, sentiment analysis, and machine translation Who this book is for This book targets data scientists and machine learning developers who wish to get started with deep learning. Advanced deep learning

models such as generative adversarial networks and their applications are also covered in this book. This book starts with a quick overview of the essential concepts of data science and machine learning which are required to get started with deep learning. Grasp the fundamental concepts of deep learning using Tensorflow in a hands-on manner

Key Features Get a first-hand experience of the deep learning concepts and techniques with this easy-to-follow guide Train different types of neural networks using Tensorflow for real-world problems in language processing, computer vision, transfer learning, and more Designed for those who believe in the concept of 'learn by doing', this book is a perfect blend of theory and code examples

Book Description Deep learning is a popular subset of machine learning, and it allows you to build complex models that are faster and give more accurate predictions. With the help of the examples and code provided in this book, you will be equipped to train your own deep learning models with more confidence. This book is your companion to take your first steps into the world of deep learning, with hands-on examples to boost your understanding of the topic. By the end of this book, you will have a solid understanding of all the essential concepts in deep learning

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. 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. Pete Warden and Daniel Situnayake explain how you can train models small enough to fit into any environment.

Much smaller. The Google Assistant team can detect words with a model just 14 kilobytes in size—small enough to run on a microcontroller. No machine learning or microcontroller experience is necessary. Deep learning networks are getting smaller. 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

WHAT YOU WILL LEARN ? Getting started with Tensorflow 2. **WHO THIS BOOK IS FOR** This book is designed for machine learning engineers, NLP engineers and deep learning practitioners who want to utilize the performance of TensorFlow in their ML and AI projects. **Convolutional Neural Networks in Tensorflow** 5. **Time Series Forecasting with TensorFlow 2.** While you explore the performance of TensorFlow, the book also covers various concepts and in-detail explanations around reinforcement learning, model optimization and time series models. **Generative Adversarial Networks.** x and 2. x with elaborated concepts. x is a must to read and practice if you are interested in building various kinds of neural networks with high level TensorFlow and Keras APIs. **TABLE OF CONTENTS** 1. ? Coverage on both, TensorFlow 1. Readers are expected to have some familiarity with Tensorflow and the basics of

machine learning would be helpful. This book includes the use of a local Jupyter notebook and the use of Google Colab in various use cases including GAN and Image classification tasks. x 3. DESCRIPTION Mastering TensorFlow 2. Text Processing with TensorFlow 2.

While we are practicing TensorFlow 2. Model Optimization 10. ? Practice Time Series analysis along with strong understanding of concepts. x 7. The book begins with the basics of TensorFlow and neural network concepts, and goes into specific topics like image classification, object detection, time series forecasting and Generative Adversarial Networks. ? Exposure to Distributed Training, GANs and Reinforcement Learning. ? Get introduced to use of TensorFlow in Reinforcement learning and Generative Adversarial Networks. ? Get well versed in functional programming with TensorFlow. Keras based APIs 4. x 6. Distributed Training and DataInput pipelines 8. x 2. Machine Learning with TensorFlow 2. Getting started with TensorFlow 2. x and basic building blocks. 6 in this book, the version of Tensorflow will change with time; however you can still use this book to witness how Tensorflow outperforms. Work with TensorFlow and Keras for real performance of deep learning KEY FEATURES ? Combines theory and implementation with in-detail use-cases. ?

Train distributed models and how to optimize them. Reinforcement Learning 9 56558d536d

Deep learning is quickly integrating itself into the technology landscape. You'll develop a working knowledge of not only TensorFlow, but also related technologies such as Python and Keras. You'll also work with Neural Networks and other deep learning concepts. Its applications range from applicable data science to deep fakes and so much more. It is crucial for aspiring data scientists or those who want to enter the field of AI to understand deep learning concepts. The best way to learn is by doing. Work through engaging and practical deep learning projects using TensorFlow 2. By the end of the book, you'll have a collection of unique projects that you can add to your GitHub profiles and expand on for professional application. What You'll Learn Grasp the basic process of neural networks through projects, such as creating music Restore and colorize black and white images with deep learning processes Who This Book Is For Beginners new to TensorFlow and Python. Using a hands-on approach, the projects in this book will lead new programmers through the basics into developing practical deep learning applications 56558d536d

This book is designed to help you if you're a beginner looking to work on deep learning and build deep learning models from scratch, and you already have the basic mathematical and programming knowledge required to get started. The book begins with a basic overview of machine learning, guiding you through setting up popular Python frameworks. A dedicated section will give you insights into the working of neural networks by helping you get hands-on with training single and multiple layers of neurons. Although no prior knowledge of deep learning or machine learning is required, familiarity with linear algebra and Python programming is necessary to get started. By the end of this book, you'll be well-versed with deep learning concepts and have the knowledge you need to use specific algorithms with various tools for different tasks. You will also understand how to prepare data by cleaning and preprocessing it for deep learning, and gradually

go on to explore neural networks. Later, you will cover popular neural network architectures such as CNNs, RNNs, AEs, VAEs, and GANs with the help of simple examples, and learn how to build models from scratch. What you will learn

- Implement recurrent neural networks (RNNs) and long short-term memory (LSTM) for image classification and natural language processing tasks
- Explore the role of convolutional neural networks (CNNs) in computer vision and signal processing
- Discover the ethical implications of deep learning modeling
- Understand the mathematical terminology associated with deep learning
- Code a generative adversarial network (GAN) and a variational autoencoder (VAE) to generate images from a learned latent space
- Implement visualization techniques to compare AEs and VAEs

Who this book is for This book is for aspiring data scientists and deep learning engineers who want to get started with the fundamentals of deep learning and neural networks. Implement supervised, unsupervised, and generative deep learning (DL) models using Keras and Dopamine with TensorFlow

Key Features

- Understand the fundamental machine learning concepts useful in deep learning
- Learn the underlying mathematical concepts as you implement deep learning models from scratch
- Explore easy-to-understand examples and use cases that will help you build a solid foundation in DL

Book Description With information on the web exponentially increasing, it has become more difficult than ever to navigate through everything to find reliable content that will help you get started with deep learning. At the end of each chapter, you will find a question and answer section to help you test what you've learned through the course of the book

By the time you finish, you'll have the knowledge and hands-on skills to apply deep learning in your own projects.

Summary

Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. We went from machines that couldn't beat a serious Go player, to defeating a world champion. We went from near-unusable speech and image recognition, to near-human accuracy. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. You'll explore challenging concepts and practice with applications in computer vision, natural-language processing, and generative models. He also does deep-learning research, with a focus on computer vision and the application of machine learning to formal reasoning. About the Book

Deep Learning with Python introduces the field of deep learning using the Python language and the powerful Keras library. Written by Keras creator and Google AI researcher François Chollet, this book builds your understanding through intuitive explanations and practical examples. Behind this progress is deep learning—a combination of engineering advances, best practices, and theory that enables a wealth of previously impossible smart applications. 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. About the Technology

Machine learning has made remarkable progress in recent years. He is the creator of the Keras deep-learning library, as well as a contributor to the TensorFlow machine-learning framework. 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. Table of Contents
PART 1 - FUNDAMENTALS OF DEEP LEARNING What is deep learning. 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. No previous
experience with Keras, TensorFlow, or machine learning is required. Written by Keras creator and Google AI researcher François
Chollet, this book builds your understanding through intuitive explanations and practical examples. About the Author François Chollet
works on deep learning at Google in Mountain View, CA 56558d536d

About the technology Supercharge your data analysis with machine learning. You don't have to be a mathematician to use ML: Tools like
Google's TensorFlow library help with complex calculations so you can focus on getting the answers you need. ML algorithms
automatically improve as they process data, so results get better over time. x. Updated with new code, new projects, and new chapters,
Machine Learning with TensorFlow, Second Edition gives readers a solid foundation in machine-learning concepts and the TensorFlow
library. New and revised content expands coverage of core machine learning algorithms, and advancements in neural networks such as
VGG-Face facial identification classifiers and deep speech classifiers. What's inside Machine Learning with TensorFlow Choosing the
best ML approaches Visualizing algorithms with TensorBoard Sharing results with collaborators Running models in Docker About the
reader Requires intermediate Python skills and knowledge of general algebraic concepts like vectors and matrices. Table of Contents
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Android accelerometer data 9 Hidden Markov models 10 Part-of-speech tagging and word-sense disambiguation PART 3 - THE
NEURAL NETWORK PARADIGM 11 A peek into autoencoders 12 Applying autoencoders: The CIFAR-10 image dataset 13
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on examples illustrate neural network techniques for deep speech processing, facial identification, and auto-encoding with CIFAR-10. x
branch of TensorFlow and TensorFlow 2. Summary Updated with new code, new projects, and new chapters, Machine Learning with
TensorFlow, Second Edition gives readers a solid foundation in machine-learning concepts and the TensorFlow library. The first edition
of this book was written by Nishant Shukla with Kenneth Fricklas. 15. Purchase of the print book includes a free eBook in PDF, Kindle,

and ePub formats from Manning Publications. About the book Machine Learning with TensorFlow, Second Edition is a fully revised guide to building machine learning models using Python and TensorFlow. Examples use the super-stable 1. About the author Chris Mattmann is the Division Manager of the Artificial Intelligence, Analytics, and Innovation Organization at NASA Jet Propulsion Lab.

Written by NASA JPL Deputy CTO and Principal Data Scientist Chris Mattmann, all examples are accompanied by downloadable Jupyter Notebooks for a hands-on experience coding TensorFlow with Python. You'll apply core ML concepts to real-world challenges, such as sentiment analysis, text classification, and image recognition 56558d536d

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. 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. Buy the Paperback Version of this Book and get the Kindle Book Version for FREE 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. 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. 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. Scroll to the top of the page and select the BUY NOW button. 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. Do you know a bit of Python coding and want to learn more about how this deep learning works. 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. You will learn: 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; The basics of the three main Python languages that will help you get the work done-including TensorFlow, Keras, and PyTorch; How to install the three Python libraries to help you get started; A closer look at neural networks, what they are, why they are important, and some of the mathematics of making them work; The basics you need to know about TensorFlow and some of the deep learning you can do with this library; The basics of the Keras library and some of the deep learning you can do with this library; A look at the PyTorch library, how it is different from the other two, and the basics of deep learning with this library; And so much more. Would you like to know more. 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. 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 56558d536d

This practical book provides an end-to-end guide to TensorFlow, the leading open source software library that helps you build and train neural networks for computer vision, natural language processing (NLP), speech recognition, and general predictive analytics. You'll begin by working through some basic examples in TensorFlow before diving deeper into topics such as neural network architectures, TensorBoard visualization, TensorFlow abstraction libraries, and multithreaded input pipelines. Get up and running with TensorFlow, rapidly and painlessly Learn how to use TensorFlow to build deep learning models from the ground up Train popular deep learning models for computer vision and NLP Use extensive abstraction libraries to make development easier and faster Learn how to scale TensorFlow, and use clusters to distribute model training Deploy TensorFlow in a production setting. Roughly inspired by the human brain, deep neural networks trained with large amounts of data can solve complex tasks with unprecedented accuracy. Once you finish this book, you'll know how to build and deploy production-ready deep learning systems in TensorFlow. Authors Tom Hope, Yehezkel Resheff, and Itay Lieder provide a hands-on approach to TensorFlow fundamentals for a broad technical audience—from data scientists and engineers to students and researchers 56558d536d

And much, much more. Programming With Python - 8 BOOK BUNDLE. Part of speech tagging N-grams Running natural language processing script And much, much more. Data Analytics With Python Here Is A Preview Of What You'll Learn Here... What is Data Analytics. How software development life cycle works. 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. Get this book bundle NOW and SAVE money. Difference between data science, big data and data analytics Installing python Python data structures Pandas series and data frames And much, much more. The origins of devops Testing and building systems tools 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. 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-classification 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. 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. 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. 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 56558d536d

Throughout the book, you'll learn how to implement deep learning algorithms for machine learning systems and integrate them into your product offerings, including search, image recognition, and language processing. Some competence in mathematics is needed to the level of elementary linear algebra and calculus. x. What You Will Learn Learn about machine learning landscapes along with the historical development and progress of deep learning Learn about deep machine intelligence and GPU computing with the latest TensorFlow 1. This book shows how this can be exploited in the real world with complex raw data using TensorFlow 1. x Access public datasets and utilize them using TensorFlow to load, process, and transform data Use TensorFlow on real-world datasets, including images, text, and more Learn how to evaluate the performance of your deep learning models Using deep learning for scalable object detection and mobile computing Train machines quickly to learn from data by exploring reinforcement learning techniques Explore active areas of deep learning research and applications In Detail Deep learning is the step that comes after machine learning, and has more advanced implementations. Machine learning is not just for academics anymore, but is becoming a mainstream practice through wide adoption, and deep learning has taken the front seat. Style and approach This step-by-step guide will explore common, and not so common, deep neural networks and show how these can be exploited in the real world with complex raw data. As a data scientist, if you want to explore data abstraction layers, this book will be your guide. This can be done by comparing algorithms against benchmarks, along with machine intelligence, to learn from the information and determine ideal behaviors within a specific context. After finishing the book, you will be familiar with machine learning techniques, in particular the use of TensorFlow for deep learning, and will be ready to apply your knowledge to research or commercial projects. Additionally, you'll learn how to analyze and improve the performance of deep learning models. With the help of practical examples, you will learn how to implement different types of neural nets to build smart applications related to text, speech, and image data processing. A rudimentary level of programming in one language is assumed, as is a basic familiarity with computer science techniques and technologies, including a basic awareness of computer hardware and algorithms. Delve into neural networks, implement deep learning algorithms, and explore layers of data abstraction with the help of this comprehensive TensorFlow guide About This Book Learn how to implement advanced techniques in deep learning with Google's brainchild, TensorFlow Explore deep neural networks and layers of data abstraction with the help of this comprehensive guide Real-world contextualization through some deep learning problems concerning research and application Who This Book Is For The book is intended for a general audience of people interested in machine learning and machine intelligence 56558d536d

x to TensorFlow 2. 0 Key FeaturesExplore TF Keras APIs and strategies to run GPUs, TPUs, and compatible APIs across the TensorFlow ecosystemLearn and implement best practices for building data ingestion pipelines using TF 2. Get to grips with key structural changes in TensorFlow 2. What's New in TensorFlow 2. 0, this book is for you. 0 and explore the latest features of TensorFlow 2. The book then takes you through the process of building data ingestion and training pipelines, and it provides recommendations and best practices for feeding data to models created using the new tf. 0 (TF 2. 0 APIs)Migrate your existing code from TensorFlow 1. By the end of the book, you'll have learned about compatibility between TF 2. 0 smoothly. 0 starts by focusing on advanced concepts such as the new TensorFlow Keras APIs, eager execution, and efficient distribution strategies that help you to run your machine learning models on multiple GPUs and TPUs. 0 seamlesslyBook Description TensorFlow is an end-to-end machine learning platform for experts as well as beginners, and its new version, TensorFlow 2. keras APIs in TF 2. You'll explore the process of building an inference pipeline using TF Serving and other multi-platform deployments before moving on to explore the newly released AIY, which is essentially do-it-yourself AI. This book will help you understand and utilize the latest TensorFlow features. keras API. 0 to build, train, and deploy production-grade modelsBuild models with Keras integration and eager executionExplore distribution strategies to run models on GPUs and TPUsPerform what-if analysis with TensorBoard across a variety of modelsDiscover Vision Kit, Voice Kit, and the Edge TPU for model deploymentsBuild complex input data pipelines for ingesting large training datasetsWho this book is for If you're a data scientist, machine learning practitioner, deep learning researcher, or AI enthusiast who wants to migrate code to TensorFlow 2. What you will learnImplement tf. x and be able to migrate to TF 2. This book delves into the core APIs to help you build unified convolutional and recurrent layers and use TensorBoard to visualize deep learning models using what-if analysis. 0 and TF 1. 0), improves its simplicity and ease of use. Prior experience with TensorFlow and Python programming is necessary to understand the concepts covered in the book 56558d536d

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. How. 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. 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. With fastai, the first library to provide a consistent interface to the most frequently used deep learning applications. Deep learning is often viewed as the exclusive domain of math PhDs and big tech companies. You'll also dive progressively further into deep learning theory to gain a complete understanding of the algorithms behind the scenes 56558d536d

If you have some background in basic linear algebra and calculus, this practical book introduces machine-learning fundamentals by showing you how to design systems capable of detecting objects in images, understanding text, analyzing video, and predicting the properties of potential medicines. TensorFlow for Deep Learning teaches concepts through practical examples and helps you build knowledge of deep learning foundations from the ground up. It's ideal for practicing developers with experience designing software systems, and useful for scientists and other professionals familiar with scripting but not necessarily with designing learning algorithms.

Learn TensorFlow fundamentals, including how to perform basic computation Build simple learning systems to understand their mathematical foundations Dive into fully connected deep networks used in thousands of applications Turn prototypes into high-quality models with hyperparameter optimization Process images with convolutional neural networks Handle natural language datasets with recurrent neural networks Use reinforcement learning to solve games such as tic-tac-toe Train deep networks with hardware including GPUs and tensor processing units. Learn how to solve challenging machine learning problems with TensorFlow, Google's revolutionary new software library for deep learning 56558d536d

This book is an exploration of deep learning in Python using TensorFlow. TensorFlow works using the concept of graphs. The process of loading your own data into TensorFlow for training neural network models has also been discussed. You will also know how to use the inbuilt data for training your neural network models. Deep learning in Python with TensorFlow simply involves the creation of neural network models. You are guided on how to train such models with data of various types. The author guides you on how to create machine learning models using TensorFlow. The author helps you understand how to create neural network models with TensorFlow. This involves installing TensorFlow and writing your first code. The author helps you know how expressions are represented into graphs in TensorFlow. You will know the initial steps of getting started with TensorFlow in Python. You will learn from this book: Getting started Building a Neural Network Working with Images Importing Data Subjects include: tensorflow python, deep learning with python, tensorflow machine learning, tensor flow, tensorflow deep learning cookbook, tensorflow for deep learning, tensorflow for dummies, tensorflow books, machine learning with tensorflow, tensorflow c++, concept of graphs, neural network, neural networks python, tensorflow with neural network. Examples of such data include images and text 56558d536d

This book shows how this can be exploited in the real world with complex raw data using TensorFlow 1. As a data scientist, if you want to explore data abstraction layers, this book will be your guide. x* Access public datasets and utilize them using TensorFlow to load, process, and transform data* Use TensorFlow on real-world datasets, including images, text, and more* Learn how to evaluate the performance of your deep learning models* Using deep learning for scalable object detection and mobile computing* Train machines quickly to learn from data by exploring reinforcement learning techniques* Explore active areas of deep learning research and

applicationsIn DetailDeep learning is the step that comes after machine learning, and has more advanced implementations. Style and approachThis step-by-step guide will explore common, and not so common, deep neural networks and show how these can be exploited in the real world with complex raw data. Some competence in mathematics is needed to the level of elementary linear algebra and calculus. Additionally, you'll learn how to analyze and improve the performance of deep learning models. What You Will Learn* Learn about machine learning landscapes along with the historical development and progress of deep learning* Learn about deep machine intelligence and GPU computing with the latest TensorFlow 1. With the help of practical examples, you will learn how to implement different types of neural nets to build smart applications related to text, speech, and image data processing. After finishing the book, you will be familiar with machine learning techniques, in particular the use of TensorFlow for deep learning, and will be ready to apply your knowledge to research or commercial projects. Machine learning is not just for academics anymore, but is becoming a mainstream practice through wide adoption, and deep learning has taken the front seat. x. Delve into neural networks, implement deep learning algorithms, and explore layers of data abstraction with the help of this comprehensive TensorFlow guideAbout This Book* Learn how to implement advanced techniques in deep learning with Google's brainchild, TensorFlow* Explore deep neural networks and layers of data abstraction with the help of this comprehensive guide* Real-world contextualization through some deep learning problems concerning research and application Who This Book Is ForThe book is intended for a general audience of people interested in machine learning and machine intelligence. This can be done by comparing algorithms against benchmarks, along with machine intelligence, to learn from the information and determine ideal behaviors within a specific context. Throughout the book, you'll learn how to implement deep learning algorithms for machine learning systems and integrate them into your product offerings, including search, image recognition, and language processing. A rudimentary level of programming in one language is assumed, as is a basic familiarity with computer science techniques and technologies, including a basic awareness of computer hardware and algorithms 56558d536d

Without a doubt it is the future. In 2017, AlphaGo, which is AI developed by Google DeepMind and started off by only knowing the rules of the game, was eventually able to train itself and beat Ke Jie, the world No. 1. Although this may not seem that impressive at first, it is important to understand that Go is a very complex game that many programmers were not able to trump with AI in the past. Deep learning is a part of the field of computer science and a subset of machine learning that involves computer systems being able to \"learn\" unsupervised with data that is unlabeled or unstructured. Although tailored for beginners, it won't contain simple and easily accessible information. If you do not have a background or any experience in the field, it is easy to get bogged down by all the complicated concepts and term. Although Go is an interesting example, the possibilities of using machine learning are limitless. According to statista. **. If you are finally prepared to begin grasping this revolutionary technology at a high level despite what your technical background may be, Click \"Add to Cart\" Now. What Machine Learning and Deep Learning Is And How You Can Use It To Change The World How The Field

Can Be Broken Down And Learned In A Manageable Way Various Applications and Potential of Deep Learning That You Can Utilize - That You May Never Have Even Imagined Supervised And Unsupervised Learning - And Breaking It Down Step By Step How You Can Create And Train Deep Learning Models Where and How To Install the Best Programs So You Can Get Started Today Sample Codes And Datasets To Practice Along With And much more. **Get the Kindle eBook version for FREE when you buy the Paperback version of this book. 1 ranked player at the time. com, the artificial intelligence industry is set to grow exponentially in the next few years from \$7 Billion in 2018 to \$90 Billion in 2025. In this Guide, you will discover. In this book, you will find the perfect balance between the information being very thorough and being able to understand it. And if you are at a more advanced level, the information you find won't be thorough enough. However, it is as complex as it is revolutionary. This isn't something you can afford to miss. In fact, this revolution has already begun and will only continue to get bigger. From retail to medicine to finance, machine learning has the ability to change each industry it comes into contact with. Curious to discover the revolutionary technology that is shaping our future and changing the world. You will dive deep into the field but will be carefully led through it in a way that will make everything easy to understand even if you do not have a technical background in computer programming 56558d536d

js Use resources to convert, train, and manage machine learning data Build and train your own training models from scratch. Once you finish this book, you'll know how to build and deploy production-ready deep learning systems with TensorFlow. You'll begin by working through some basic examples in TensorFlow. With this Google framework, seasoned AI veterans and web developers alike can help propel the future of AI-driven websites. js before diving deeper into neural network architectures, DataFrames, TensorFlow Hub, model conversion, transfer learning, and more. Explore tensors, the most fundamental structure of machine learning Convert data into tensors and back with a real-world example Combine AI with the web using TensorFlow. js was inevitable. Given the demand for AI and the ubiquity of JavaScript, TensorFlow. In this guide, author Gant Laborde--Google Developer Expert in machine learning and the web--provides a hands-on end-to-end approach to TensorFlow. js fundamentals for a broad technical audience that includes data scientists, engineers, web developers, students, and researchers. js 56558d536d

At first, the book offers an overview of neuro-memristive systems, including memristor devices, models, and theory, as well as an introduction to deep learning neural networks such as multi-layer networks, convolution neural networks, hierarchical temporal memory, and long short term memories, and deep neuro-fuzzy networks. The book integrates the theory with various applications of neuro-memristive circuits and systems. This book introduces readers to the fundamentals of deep neural network architectures, with a special emphasis on memristor circuits and systems. It then focuses on the design of these neural networks using memristor crossbar architectures in detail. It provides an introductory tutorial on a range of issues in the design, evaluation techniques, and implementations of different

deep neural network architectures with memristors 56558d536d

Deep learning is the most interesting and powerful machine learning technique right now. In this Ebook, learn exactly how to get started and apply deep learning to your own machine learning projects. Top deep learning libraries are available on the Python ecosystem like Theano and TensorFlow. Tap into their power in a few lines of code using Keras, the best-of-breed applied deep learning library 56558d536d

Intermediate and advanced machine learning implementers who need a quick guide they can easily navigate will find it useful. Style and approach This book takes a recipe-based approach where every topic is explicated with the help of a real-world example. Moving ahead, you will get hands-on experience with Linear Regression techniques with TensorFlow. What You Will Learn Become familiar with the basics of the TensorFlow machine learning library Get to know Linear Regression techniques with TensorFlow Learn SVMs with hands-on recipes Implement neural networks and improve predictions Apply NLP and sentiment analysis to your data Master CNN and RNN through practical recipes Take TensorFlow into production In Detail TensorFlow is an open source software library for Machine Intelligence. You'll work through recipes on training models, model evaluation, sentiment analysis, regression analysis, clustering analysis, artificial neural networks, and deep learning – each using Google's machine learning library TensorFlow. Once you are familiar and comfortable with the TensorFlow ecosystem, the last chapter will show you how to take it to production. This guide starts with the fundamentals of the TensorFlow library which includes variables, matrices, and various data sources. The next chapters cover important high-level concepts such as neural networks, CNN, RNN, and NLP. The independent recipes in this book will teach you how to use TensorFlow for complex data computations and will let you dig deeper and gain more insights into your data than ever before. Explore machine learning concepts using the latest numerical computing library — TensorFlow — with the help of this comprehensive cookbook About This Book Your quick guide to implementing TensorFlow in your day-to-day machine learning activities Learn advanced techniques that bring more accuracy and speed to machine learning Upgrade your knowledge to the second generation of machine learning with this guide on TensorFlow Who This Book Is For This book is ideal for data scientists who are familiar with C++ or Python and perform machine learning activities on a day-to-day basis 56558d536d

It is used extensively across many fields such as search engines, image recognition, robotics, finance, and so on. This book is friendly to Python beginners, but being familiar with Python would be useful to play around with the code. 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. In every chapter, we explain an algorithm, implement it, and then build a smart application. 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. 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. The book provides multiple examples enabling you to create smart applications to meet the needs of your organization. Starting from the basics of Artificial Intelligence, you will learn how to develop various building blocks using different data mining techniques. 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. 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. It will also be useful for experienced Python programmers who are looking to use Artificial Intelligence techniques in their existing technology stacks. Style and approach This highly practical book will show you how to implement Artificial Intelligence. During the course of this book, you will find out how to make informed decisions about what algorithms to use in a given context 56558d536d

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