TensorFlow

Getting Started with TensorFlow 2.0

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Getting Started With Tensorflow:

Getting Started with TensorFlow Aurélien Géron,2017 *Getting started with Deep Learning for Natural Language Processing* Sunil Patel,2021-01-13 Learn how to redesign NLP applications from scratch KEY FEATURES Get familiar with the basics of any Machine Learning or Deep Learning application Understand how does preprocessing work in NLP pipeline Use simple PyTorch snippets to create basic building blocks of the network commonly used in NLP Learn how to build a complex NLP application Get familiar with the advanced embedding technique Generative network and Audio signal processing techniques DESCRIPTION Natural language processing NLP is one of the areas where many Machine Learning and Deep Learning techniques are applied This book covers wide areas including the fundamentals of Machine Learning Understanding and optimizing Hyperparameters Convolution Neural Networks CNN and Recurrent Neural Networks RNN This book not only covers the classical concept of text processing but also shares the recent advancements This book will empower users in designing networks with the least computational and time complexity This book not only covers basics of Natural Language Processing but also helps in deciphering the logic behind advanced concepts architecture such as Batch Normalization Position Embedding DenseNet Attention Mechanism Highway Networks Transformer models and Siamese Networks This book also covers recent advancements such as ELMo BiLM SkipThought and Bert This book also covers practical implementation with step by step explanation of deep learning techniques in Topic Modelling Text Generation Named Entity Recognition Text Summarization and Language Translation In addition to this very advanced and open to research topics such as Generative Adversarial Network and Speech Processing are also covered WHAT YOU WILL LEARN Learn how to leveraging GPU for Deep Learning Learn how to use complex embedding models such as BERT Get familiar with the common NLP applications Learn how to use GANs in NLP Learn how to process Speech data and implementing it in Speech applications WHO THIS BOOK IS FOR This book is a must read to everyone who wishes to start the career with Machine learning and Deep Learning This book is also for those who want to use GPU for developing Deep Learning applications TABLE OF CONTENTS 1 Understanding the basics of learning Process 2 Text Processing Techniques 3 Representing Language Mathematically 4 Using RNN for NLP 5 Applying CNN In NLP Tasks 6 Accelerating NLP with Advanced Embeddings 7 Applying Deep Learning to NLP tasks 8 Application of Complex Architectures in NLP 9 Understanding Generative Networks 10 Techniques of Speech Processing 11 The Road Ahead AI and Machine Learning for Coders Laurence Moroney,2020-10-01 If you re looking to make a career move from programmer to AI specialist this is the ideal place to start Based on Laurence Moroney s extremely successful AI courses this introductory book provides a hands on code first approach to help you build confidence while you learn key topics You ll understand how to implement the most common scenarios in machine learning such as computer vision natural language processing NLP and sequence modeling for web mobile cloud and embedded runtimes Most books on machine learning begin with a daunting amount of

advanced math This guide is built on practical lessons that let you work directly with the code You ll learn How to build models with TensorFlow using skills that employers desire The basics of machine learning by working with code samples How to implement computer vision including feature detection in images How to use NLP to tokenize and sequence words and sentences Methods for embedding models in Android and iOS How to serve models over the web and in the cloud with TensorFlow Serving   **TensorFlow 2.0 Quick Start Guide** Tony Holdroyd,2019-03-29 Perform supervised and unsupervised machine learning and learn advanced techniques such as training neural networks Key FeaturesTrain 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 networksGet acquainted with some new practices introduced in TensorFlow 2 0 AlphaBook Description TensorFlow is one of the most popular machine learning frameworks in Python 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 After giving you an overview of what s new in TensorFlow 2 0 Alpha the book moves on to setting up your machine learning environment using the TensorFlow library You will perform popular supervised machine learning tasks using techniques such as linear regression logistic regression and clustering You will get familiar with unsupervised learning for autoencoder applications The book will also show you how to train effective neural networks using straightforward examples in a variety of different domains By the end of the book you will have been exposed to a large variety of machine learning and neural network TensorFlow techniques What you will learnUse tf Keras for fast prototyping building and training deep learning neural network modelsEasily convert your TensorFlow 1 12 applications to TensorFlow 2 0 compatible filesUse TensorFlow to tackle traditional supervised and unsupervised machine learning applicationsUnderstand image recognition techniques using TensorFlowPerform neural style transfer for image hybridization using a neural networkCode a recurrent neural network in TensorFlow to perform text style generationWho 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 Some Python programming experience with version 3 6 or later along with a familiarity with Jupyter notebooks will be an added advantage Exposure to machine learning and neural network techniques would also be helpful

   Mastering OpenCV 4 with Python Alberto Fernández Villán,2019-03-29 Create advanced applications with Python and OpenCV exploring the potential of facial recognition machine learning deep learning web computing and augmented reality Key FeaturesDevelop your computer vision skills by mastering algorithms in Open Source Computer Vision 4 OpenCV 4 and PythonApply machine learning and deep learning techniques with TensorFlow and KerasDiscover the modern design patterns you should avoid when developing efficient computer vision applicationsBook Description OpenCV is considered to be one of the best open source computer vision and machine learning software libraries It helps developers build complete projects in relation to image processing motion detection or image segmentation among many others OpenCV for Python enables you to

run computer vision algorithms smoothly in real time combining the best of the OpenCV C API and the Python language In this book you ll get started by setting up OpenCV and delving into the key concepts of computer vision You ll then proceed to study more advanced concepts and discover the full potential of OpenCV The book will also introduce you to the creation of advanced applications using Python and OpenCV enabling you to develop applications that include facial recognition target tracking or augmented reality Next you ll learn machine learning techniques and concepts understand how to apply them in real world examples and also explore their benefits including real time data production and faster data processing You ll also discover how to translate the functionality provided by OpenCV into optimized application code projects using Python bindings Toward the concluding chapters you ll explore the application of artificial intelligence and deep learning techniques using the popular Python libraries TensorFlow and Keras By the end of this book you ll be able to develop advanced computer vision applications to meet your customers demands What you will learnHandle files and images and explore various image processing techniquesExplore image transformations including translation resizing and croppingGain insights into building histogramsBrush up on contour detection filtering and drawingWork with Augmented Reality to build marker based and markerless applicationsWork with the main machine learning algorithms in OpenCVExplore the deep learning Python libraries and OpenCV deep learning capabilitiesCreate computer vision and deep learning web applicationsWho this book is for This book is designed for computer vision developers engineers and researchers who want to develop modern computer vision applications Basic experience of OpenCV and Python programming is a must **Deep Learning for Beginners with TensorFlow** Mark Smart,2018-09-13 This book is an exploration of deep learning in Python using TensorFlow The author guides you on how to create machine learning models using TensorFlow You will know the initial steps of getting started with TensorFlow in Python This involves installing TensorFlow and writing your first code TensorFlow works using the concept of graphs The author helps you know how expressions are represented into graphs in TensorFlow Deep learning in Python with TensorFlow simply involves the creation of neural network models The author helps you understand how to create neural network models with TensorFlow You are guided on how to train such models with data of various types Examples of such data include images and text 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 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 *Practical Big Data Analytics* Nataraj Dasgupta,2018-01-15 Get command of your organizational Big Data using the power of data science and analytics Key Features A perfect companion to boost your Big Data storing processing analyzing skills to help you take informed business

decisions Work with the best tools such as Apache Hadoop R Python and Spark for NoSQL platforms to perform massive online analyses Get expert tips on statistical inference machine learning mathematical modeling and data visualization for Big Data Book Description Big Data analytics relates to the strategies used by organizations to collect organize and analyze large amounts of data to uncover valuable business insights that otherwise cannot be analyzed through traditional systems Crafting an enterprise scale cost efficient Big Data and machine learning solution to uncover insights and value from your organization s data is a challenge Today with hundreds of new Big Data systems machine learning packages and BI Tools selecting the right combination of technologies is an even greater challenge This book will help you do that With the help of this guide you will be able to bridge the gap between the theoretical world of technology with the practical ground reality of building corporate Big Data and data science platforms You will get hands on exposure to Hadoop and Spark build machine learning dashboards using R and R Shiny create web based apps using NoSQL databases such as MongoDB and even learn how to write R code for neural networks By the end of the book you will have a very clear and concrete understanding of what Big Data analytics means how it drives revenues for organizations and how you can develop your own Big Data analytics solution using different tools and methods articulated in this book What you will learn Get a 360 degree view into the world of Big Data data science and machine learning Broad range of technical and business Big Data analytics topics that caters to the interests of the technical experts as well as corporate IT executives Get hands on experience with industry standard Big Data and machine learning tools such as Hadoop Spark MongoDB KDB and R Create production grade machine learning BI Dashboards using R and R Shiny with step by step instructions Learn how to combine open source Big Data machine learning and BI Tools to create low cost business analytics applications Understand corporate strategies for successful Big Data and data science projects Go beyond general purpose analytics to develop cutting edge Big Data applications using emerging technologies Who this book is for The book is intended for existing and aspiring Big Data professionals who wish to become the go to person in their organization when it comes to Big Data architecture analytics and governance While no prior knowledge of Big Data or related technologies is assumed it will be helpful to have some programming experience **Fog Radio Access Networks (F-RAN)** Mugen Peng,Zhongyuan Zhao,Yaohua Sun,2020-08-12 This book provides a comprehensive introduction of Fog Radio Access Networks F RANs from both academic and industry perspectives The authors first introduce the network architecture and the frameworks of network management and resource allocation for F RANs They then discuss the recent academic research achievements of F RANs such as the analytical results of theoretical performance limits and optimization theory based resource allocation techniques Meanwhile they discuss the application and implementations of F RANs including the latest standardization procedure and the prototype and test bed design The book is concluded by summarizing the existing open issues and future trends of F RANs Includes the latest theoretical and technological research achievements of F RANs also discussing existing open issues and future trends of F

RANs toward 6G from an interdisciplinary perspective Provides commonly used tools for research and development of F RANs such as open resource projects for implementing prototypes and test beds Includes examples of prototype and test bed design and gives tools to evaluate the performance of F RANs in simulations and experimental circumstances **Getting Started with TensorFlow 2.0 for Deep Learning** Muhammad Javed,2019 Learn to develop deep learning models and kickstart your career in deep learning with TensorFlow 2 0 About This Video Explore the latest feature set and modern deep learning APIs in TensorFlow 2 0 Develop computer vision and text sequences based on deep learning models Learn advanced deep learning topics including Keras functional API In Detail Deep learning is a trending technology if you want to break into cutting edge AI and solve real world data driven problems Google s TensorFlow is a popular library for implementing deep learning algorithms because of its rapid developments and commercial deployments This course provides you with the core of deep learning using TensorFlow 2 0 You ll learn to train your deep learning networks from scratch pre process and split your datasets train deep learning models for real world applications and validate the accuracy of your models By the end of the course you ll have a profound knowledge of how you can leverage TensorFlow 2 0 to build real world applications without much effort *Machine Learning and Deep Learning Using Python and TensorFlow* Venkata Reddy Konasani,Shailendra Kadre,2021-04-29 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 **Getting Started with TensorFlow for Deep Learning** Tom Joy,2018 We will not only get you up and running with deep learning but also equip you with the skills to implement your own neural networks and apply them to the real world We will use TensorFlow an efficient Python library used to create and train our neural networks You ll learn the skills to implement their architecture quickly and efficiently without having to deal with minutiae You can rely on our expert guidance while learning the basic theory backed up with relevant examples We provide examples of neural networks which you can use to highlight the key features We then build up to more advanced networks You ll learn to utilize a Convolutional Neural Network to classify images of handwritten text and then take your CNN further to perform object detection and localization in an image This course will quickly get you past the fundamentals of TensorFlow you ll go on to more exciting things such as implementing a

variety of image recognition tasks Resource description page   **Getting Started with Tensorflow** Giancarlo Zaccone,2016-07-26 Get up and running with the latest numerical computing library by Google and dive deeper into your data 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 This book will acquaint you with an all new refreshing library TensorFlow 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 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 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 This book takes you through the practical software implementation of various machine learning techniques with TensorFlow In the first few chapters you ll gain familiarity with the framework and perform the mathematical operations required for data analysis 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 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 Style and approachGet quickly up and running with TensorFlow using this fast paced guide You will get to know everything that can be done with TensorFlow and we ll show you how to implement it in your environment The examples in the book are from the core of the computation industry something you can connect to and will find familiar   *Python for Programmers* Paul Deitel,Harvey Deitel,2019-03-15 The professional programmer s Deitel guide to Python with introductory artificial intelligence case studies Written for programmers with a background in another high level language Python for Programmers uses hands on instruction to teach today s most compelling leading edge computing technologies and programming in Python one of the world s most popular and fastest growing languages Please read the Table of Contents diagram inside the front cover and the Preface for more details In the context of 500 real world examples ranging from individual snippets to 40 large scripts and full implementation case studies you ll use the interactive IPython interpreter with code in Jupyter Notebooks to quickly master the latest Python coding idioms After covering Python Chapters 1 5 and a few key parts of Chapters 6 7 you ll be able to handle significant portions of the hands on

introductory AI case studies in Chapters 11 16 which are loaded with cool powerful contemporary examples These include natural language processing data mining Twitter for sentiment analysis cognitive computing with IBM WatsonTM supervised machine learning with classification and regression unsupervised machine learning with clustering computer vision through deep learning and convolutional neural networks deep learning with recurrent neural networks big data with Hadoop SparkTM and NoSQL databases the Internet of Things and more You ll also work directly or indirectly with cloud based services including Twitter Google TranslateTM IBM Watson Microsoft Azure OpenMapQuest PubNub and more Features 500 hands on real world live code examples from snippets to case studies IPython code in Jupyter Notebooks Library focused Uses Python Standard Library and data science libraries to accomplish significant tasks with minimal code Rich Python coverage Control statements functions strings files JSON serialization CSV exceptions Procedural functional style and object oriented programming Collections Lists tuples dictionaries sets NumPy arrays pandas Series DataFrames Static dynamic and interactive visualizations Data experiences with real world datasets and data sources Intro to Data Science sections AI basic stats simulation animation random variables data wrangling regression AI big data and cloud data science case studies NLP data mining Twitter IBM WatsonTM machine learning deep learning computer vision Hadoop SparkTM NoSQL IoT Open source libraries NumPy pandas Matplotlib Seaborn Folium SciPy NLTK TextBlob spaCy Textatistic Tweepy scikit learn Keras and more Accompanying code examples are available here http ptgmedia pearsoncmg com imprint_downloads informit bookreg 9780135224335 9780135224335_examples zip Register your product for convenient access to downloads updates and or corrections as they become available See inside book for more information   Getting Started with Deep Learning Ricardo Calix,2017-01-18 Ever since 2007 with the explosion in the use of parallel hardware the field of machine learning has become more exciting and more promising It seems that the dream of true AI is finally just around the corner Certainly there are many companies that are starting to rely heavily on AI for their products These include companies in search like Facebook Google as well as retailers and multimedia companies like Amazon and Netflix 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 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 The book is not a comprehensive survey on deep learning There are many topics I do not cover here as too much material can be overwhelming to the un initiated There are many good books that cover all the theory in depth and I will mention some of them in the book 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 Therefore a lot of detail is spent on helping the reader to write his or her first deep network classifier 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 In general I prefer python and I will try to

present all examples using this great language I will also use the more common libraries and the Linux development environment 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 **Deep Learning with PyTorch, Second Edition** Luca Antiga,Eli Stevens,Howard Huang,Thomas Viehmann,2026-03-24 PyTorch core developer Howard Huang updates the bestselling original Deep Learning with PyTorch with new insights into the transformers architecture and generative AI models Instantly familiar to anyone who knows PyData tools like NumPy PyTorch simplifies deep learning without sacrificing advanced features In this book you ll learn how to create your own neural network and deep learning systems and take full advantage of PyTorch s built in tools for automatic differentiation hardware acceleration distributed training and more You ll discover how easy PyTorch makes it to build your entire DL pipeline including using the PyTorch Tensor API loading data in Python monitoring training and visualizing results Each new technique you learn is put into action with practical code examples in each chapter culminating into you building your own convolution neural networks transformers and even a real world medical image classifier In Deep Learning with PyTorch Second Edition you ll find Deep learning fundamentals reinforced with hands on projects Mastering PyTorch s flexible APIs for neural network development Implementing CNNs transformers and diffusion models Optimizing models for training and deployment Generative AI models to create images and text About the technology The powerful PyTorch library makes deep learning simple without sacrificing the features you need to create efficient neural networks LLMs and other ML models Pythonic by design it s instantly familiar to users of NumPy Scikit learn and other ML frameworks This thoroughly revised second edition covers the latest PyTorch innovations including how to create and refine generative AI models About the book Deep Learning with PyTorch Second Edition shows you how to build neural network models using the latest version of PyTorch Clear explanations and practical projects help you master the fundamentals and explore advanced architectures including transformers and LLMs Along the way you ll learn techniques for training using augmented data improving model architecture and fine tuning What s inside PyTorch APIs for neural network development LLMs transformers and diffusion models Model training and deployment About the reader For Python programmers with a background in machine learning About the author Howard Huang is a software engineer and developer on the PyTorch library focusing on large scale distributed training Eli Stevens Luca Antiga and Thomas Viehmann authored the first edition of Deep Learning with PyTorch Table of Contents Part 1 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 9 How transformers work 10 Diffusion models for images 11 Using PyTorch to fight cancer 12 Combining data sources into a unified dataset 13 Training a classification model to detect suspected tumors 14 Improving training with metrics and augmentation 15 Using segmentation to find suspected nodules 16 Training models on multiple

GPU   **The TensorFlow Workshop** Matthew Moocarme,Anthony So,Anthony Maddalone,2021-12-15 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 If this sounds familiar to you The TensorFlow Workshop is here to help Combining clear explanations realistic examples and plenty of hands on practice it ll quickly get you up and running You ll start off with the basics learning how to load data into TensorFlow perform tensor operations and utilize common optimizers and activation functions 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 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 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 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   **TensorFlow Reinforcement Learning Quick Start Guide** Kaushik Balakrishnan,2019-03-30 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 Formulate and devise selective algorithms and techniques in your applications in no time 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 The book starts by introducing you to essential Reinforcement Learning concepts such as agents environments rewards and advantage functions You will also master the distinctions between on policy and off policy

algorithms as well as model free and model based algorithms 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 Finally you will also learn how to train a car to drive autonomously in the Torcs racing car simulator 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 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 Prior knowledge of machine learning and deep learning concepts as well as exposure to Python programming will be useful   **Mastering TensorFlow 2.x** Rajdeep,2022-03-24 Work with TensorFlow and Keras for real performance of deep learning KEY FEATURES Combines theory and implementation with in detail use cases Coverage on both TensorFlow 1 x and 2 x with elaborated concepts Exposure to Distributed Training GANs and Reinforcement Learning DESCRIPTION Mastering TensorFlow 2 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 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 While we are practicing TensorFlow 2 6 in this book the version of Tensorflow will change with time however you can still use this book to witness how Tensorflow outperforms 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 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 WHAT YOU WILL LEARN Getting started with Tensorflow 2 x and basic building blocks Get well versed in functional programming with TensorFlow Practice Time Series analysis along with strong understanding of concepts Get introduced to use of TensorFlow in Reinforcement learning and Generative Adversarial Networks Train distributed models and how to optimize them 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 Readers are expected to have some familiarity with Tensorflow and the basics of machine learning would be helpful TABLE OF CONTENTS 1 Getting started with

TensorFlow 2 x 2 Machine Learning with TensorFlow 2 x 3 Keras based APIs 4 Convolutional Neural Networks in Tensorflow 5 Text Processing with TensorFlow 2 x 6 Time Series Forecasting with TensorFlow 2 x 7 Distributed Training and DataInput pipelines 8 Reinforcement Learning 9 Model Optimization 10 Generative Adversarial Networks   Programming With Python Frank Millstein,2020-09-05 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   Deep Learning with TensorFlow Giancarlo Zaccone,Md. Rezaul Karim,2018-03-30 Delve into neural networks implement deep learning algorithms and explore layers of data abstraction with the help of TensorFlow 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 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 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 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 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 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 Some competence in mathematics is needed to the level of elementary linear algebra and calculus

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Getting Started With Tensorflow Introduction

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