Free epub Getting started with tensorflow (Download Only)

Getting Started with Tensorflow Deep Learning with TensorFlow TensorFlow 2.0 Quick Start Guide The TensorFlow Workshop Deep Learning for Beginners with TensorFlow TensorFlow Reinforcement Learning Quick Start Guide Deep Learning with TensorFlow Machine Learning with TensorFlow 1.x Mastering TensorFlow 2.x TensorFlow: Powerful Predictive Analytics with TensorFlow Machine Learning Reinforcement Learning 現場で使える! TensorFlow開発入門 Kerasによる深層学習モデル構築手法 Machine Learning with TensorFlow TensorFlowで学ぶディープラーニング入門～畳み込みニューラルネットワーク徹底解説 Adopting TensorFlow for Real-World AI What's New in TensorFlow 2.0 Hands-On Neural Networks with TensorFlow 2.0 Machine Learning Using TensorFlow Cookbook TensorFlow 2.0 Computer Vision Cookbook Deep Learning with TensorFlow 2 and Keras TensorFlow Machine Learning Cookbook Hands-On Computer Vision with TensorFlow 2 Machine Learning With Tensorflow Natural Language Processing with TensorFlow Hands-On Deep Learning with TensorFlow Neural Network Programming with TensorFlow Practical Java Programming for IoT, AI, and Blockchain 入門機械学習パイプライン Getting Started with Deep Learning ROS Robotics Projects Introduction to Data Mining and Analytics AI and Machine Learning for On-Device Development Mastering Javascript たのしくできる深層学習&深層強化学習による電子工作▯TensorFlow編 Mastering Python 日経ソフトウエア 2017年 11月号 [雑誌] TensorFlowで学ぶ機械学習・ニューラルネットワーク TensorFlowで学ぶ機械学習・ニューラルネットワーク PythonとKerasによるディープラーニング

Getting Started with Tensorflow 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

Deep Learning with TensorFlow 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

TensorFlow 2.0 Quick Start Guide 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

The TensorFlow Workshop 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

Deep Learning for Beginners with TensorFlow 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

TensorFlow Reinforcement Learning Quick Start Guide 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

Deep Learning with TensorFlow 2017-04-24 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 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 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 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 as a data scientist if you want to explore data abstraction layers this book will be your guide this book shows how this can be exploited in the real world with complex raw data using tensorflow 1 x 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 additionally you ll learn how to analyze and improve the performance of deep learning models 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 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 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

Machine Learning with TensorFlow 1.x 2017-11-21 tackle common commercial machine learning problems with google s tensorflow 1 x library and build deployable solutions about this book enter the new era of second generation machine learning with python with this practical and insightful guide set up tensorflow 1 x for actual industrial use including high performance setup aspects such as multi gpu support create pipelines for training and using applying classifiers using raw real world data who this book is for this book is for data scientists and researchers who are looking to either migrate from an existing machine learning library or jump into a machine learning platform headfirst the book is also for software developers who wish to learn deep learning by example particular focus is placed on solving commercial deep learning problems from several industries using tensorflow s unique features no commercial domain knowledge is required but familiarity with python and matrix math is expected what you will learn explore how to use different machine learning models to ask different questions of your data learn how to build deep neural networks using tensorflow 1 x cover key tasks such as clustering sentiment analysis and regression analysis using tensorflow 1 x find out how to write clean and elegant python code that will optimize the strength of your algorithms discover how to embed your machine learning model in a web application for increased accessibility learn how to use multiple gpus for faster training using aws in detail google s tensorflow is a game changer in the world of machine learning it has made machine learning faster simpler and more accessible than ever before this book will teach you how to easily get started with machine learning using the power of python and tensorflow 1 x firstly you ll cover the basic installation procedure and explore the capabilities of tensorflow 1 x this is followed by training and running the first classifier and coverage of the unique features of the library including data flow graphs training and the visualization of performance with tensorboard all within an example rich context using problems from multiple industries you ll be able to further explore text and image analysis and be introduced to cnn models and their setup in tensorflow 1 x next you ll implement a complete real life production system from training to serving a deep learning model as you advance you ll learn about amazon services aws and create a deep neural network to solve a video action recognition problem lastly you ll convert the caffe model to tensorflow and be introduced to the high level tensorflow library tensorflow slim by the end of this book you will be geared up to take on any challenges of implementing tensorflow 1 x in your machine learning environment style and approach this comprehensive guide will enable you to understand the latest advances in machine learning and will empower you to implement this knowledge in your machine learning environment

Mastering TensorFlow 2.x 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

TensorFlow: Powerful Predictive Analytics with TensorFlow 2018-03-14 learn how to solve real life problems using different methods like logic regression random forests and svm s with tensorflow key features understand predictive analytics along with its challenges and best practices embedded with assessments that will help you revise the concepts you have learned in this book book description predictive analytics discovers hidden patterns from structured and unstructured data for automated decision making in business intelligence predictive decisions are becoming a huge trend worldwide catering to wide industry sectors by predicting which decisions are more likely to give maximum results tensorflow google s brainchild is immensely popular and extensively used for predictive analysis this book is a quick learning guide on all the three types of machine learning that is supervised unsupervised and reinforcement learning with tensorflow this book will teach you predictive analytics for high dimensional and sequence data in particular you will learn the linear regression model for regression analysis you will also learn how to use regression for predicting continuous values you will learn supervised learning algorithms for predictive analytics you will explore unsupervised learning and clustering using k meansyou will then learn how to predict neighborhoods using k means and then see another example of clustering audio clips based on their audio features this book is ideal 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 this book is embedded with useful assessments that will help you revise the concepts you have learned in this book what you will learn learn tensorflow features in a real life problem followed by detailed tensorflow installation and configuration explore computation graphs data and programming models also get an insight into an example of implementing linear regression model for predictive analytics solve the titanic survival problem using logistic regression random forests and svms for predictive analytics dig deeper into predictive analytics and find out how to take advantage of it to cluster records belonging to the certain group or class for a dataset of unsupervised observations learn several examples of how to apply reinforcement learning algorithms for developing predictive models on real life datasets who this book is for this book is aimed at 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

Machine Learning 2020-08-14 machine learning 2 book bundle python machine learning machine learning is the science of getting machines and computers to act and learn on their own without being programmed explicitly 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 therefore there is no wondering why machine learning is so pervasive today in this book you will learn more about interpreting machine learning techniques using python 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 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 machine learning with tensorflow tensorflow is a powerful open source software library for performing various numerical data flow graphs 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 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 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 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

Reinforcement Learning 2017-12-07 master reinforcement learning a popular area of machine learning starting with the basics discover how agents and the environment evolve and then gain a clear picture of how they are inter related you ll then work with theories related to reinforcement learning and see the concepts that build up the reinforcement learning process reinforcement learning discusses algorithm implementations important for reinforcement learning including markov s decision process and semi markov decision process the next section shows you how to get started with open ai before looking at open ai gym you ll then learn about swarm intelligence with python in terms of reinforcement learning the last part of the book starts with the tensorflow environment and gives an outline of how reinforcement learning can be applied to tensorflow there s also coverage of keras a framework that can be used with reinforcement learning finally you ll delve into google s deep mind and see scenarios where reinforcement learning can be used what you ll learn absorb the core concepts of the reinforcement learning process use advanced topics of deep learning and ai work with open ai gym open ai and python harness reinforcement learning with tensorflow and keras using python who this book is for data scientists machine learning and deep learning professionals developers who want to adapt and learn reinforcement learning

現場で使える! TensorFlow開発入門 Kerasによる深層学習モデル構築手法 2018-04-19 本書の特徴 2015年11月にgoogleがオープンソース化したソフトウェアライブラリ tensorflow テンソルフロー は多くの開発者に支持され多企業で採用されています 本書は tensorflowの導入から 高レベルapiであるkerasを利用した実践的な深層学習モデルまで解説した エンジニア向けの入門書です 第1部の基本編では 深層学習とtensorflow kerasの基礎について解説し第2部の応用編では画像処理における応用的なモデルのkerasを使った実装方法を解説します 特に 第2部では ノイズ除去 自動着色 超解像 画風変換 画像生成 を取り上げています tensorflowやkerasの機能面を押さえつつ 現場で使用できるような実践的な深層学習モデルまでフォローしています 対象読者 深層学習に入門したいエンジニア 第1部 基本編 第1章 機械学習ライブラリtensorflowとkeras 第2章 開発環境を構築する 第3章 簡単なサンプルで学ぶtensorflowの基本 第4章 ニューラルネットワークとkeras 第5章 kerasによるcnnの実装 第6章 学習済みモデルの活用 第7章 よく使うkerasの機能 第2部 応用編 第8章 caeを使ったノイズ除去 第9章 自動着色 第10章 超解像 第11章 画風変換 第12章 画像生成

Machine Learning with TensorFlow 2016-12-30 tackle common commercial machine learning problems with google s tensorflow library and build deployable solutions about this book set up tensorflow for actual industrial use including high performance setup aspects such as multi gpu support create pipelines for training and using applying classifiers using raw real world data productionize challenges and deploy solutions into a production settingwho this book is forthis book is for data scientists and researchers who are looking to either migrate from an existing machine learning library or jump into a machine learning platform headfirst the book is also for software developers who wish to learn deep learning by example particular focus is placed on solving commercial deep learning problems from several industries using tensorflow s unique features no commercial domain knowledge is required but familiarity with python and matrix math is expected what you will learn set up basic and advanced tensorflow installations deep dive into training validating and monitoring training performance set up and run cross sectional examples images time series text and audio create pipelines to deal with real world input data set up and run cross domain specific examples economics medicine text classification and advertising empower the reader to go from concept to a production ready machine learning setup pipeline capable of real world usagein detailtensorflow is an open source software library for numerical computation using data flow graphs the flexible architecture allows you to deploy computation to one or more cpus or gpus in a desktop server or mobile device with a single api tensorflow was originally developed by researchers and engineers working on the google brain team within google s machine intelligence research organization for the purposes of conducting machine learning and deep neural networks research but the system is general enough to be applicable in a wide variety of other domains as well this book approaches common commercial machine learning problems using google s tensorflow library it will cover unique features of the library such as data flow graphs training visualisation of performance with tensorboard all within an example rich context using problems from multiple industries the is on introducing new concepts through problems that are coded and solved over the course of each chapter

TensorFlow□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□ 2016-09-28 この商品はタブレットなど大きいディスプレイを備えた端末で読むことに適しています また 文字だけを拡大することや 文字列のハイライト 検索 辞書の参照 引用などの機能が使用できません tensorflowを実際に動かしながら 畳み込みニューラルネットワーク の仕組みを理解しよう ディープラーニングの世界へようこそ 本書は 機械学習やデータ分析を専門とはしない一般の方を対象とした書籍です と言っても ディープラーニングの歴史や人工知能の将来展望を語る啓蒙書ではありません ディープラーニングの代表とも言える 畳み込みニューラルネットワーク を例として その仕組みを根本から理解すること そして tensorflowを用いて実際に動作するコードを作成することが本書の目標です ディープラーニングの解説記事で必ず登場するのが 多数のニューロンが何層にも結合された 多層ニューラルネットワーク の模式図です このニューラルネットワークの中でいったいなにが起きているのか ディープラーニングのアルゴリズムはどのような仕組みで学習をしているのか 何とかしてこれを理解したい そんな気持ちを持ったあなたこそが 本書が対象とする読者です 本書では tensorflowをインストール済みのdocker用コンテナイメージを用いて説明を行っていきます linux mac os x windowsなどの環境で dockerを利用して環境を起動することができます また tensorflow 0 9 0 gpu非対応版 python 2 7を使用しています ハードウェア環境は 4コアcpuと4gb以上の物理メモリーを想定しています メモリー容量がこれより少ない場合 第4章 および 第5章のサンプルコードが実行できない場合がありますのでご注意ください

Adopting TensorFlow for Real-World AI 2020-05-05 this book is aimed at providing a practical guidance and approach for utilizing tensorflow in the real world based on python a programming language you are not expected to be an expert in python or know python at all the book is intended for newcomers in the field of machine learning ml and artificial intelligence ai especially for those who do not have any statistical background but they are really interested to learn the details and approach of building a machine learning application this book is also intended for experienced data scientists machine learning engineers who are generally too focused on building machine learning model s investing 60 70 of their time in making the model work with a greater level of accuracy in some cases they forget the real application and the use case of the application in most of these cases they end up what we call overfitting of the model the book is expected to focus on developing a machine learning application and in the process detailing multiple real world practical challenges steps of a ml application s honestly speaking the book is meant for lazy engineers aspiring data scientists machine learning engineers experienced it professionals in other fields who like the authors hate reading through lengthy books with several hundred pages of mathematical models and equations to even getting started with machine learning many of us are looking for a book with not more than 100 150 pages to gain an understanding on machine learning and it could be an icing on the cake if the book can do away with minimal to no mathematical equations there are many books articles books guides and documents published on artificial intelligence machine learning and most of them focus on mathematical equations building models they tend to be very lengthy spanning several hundred pages of course they are aimed at serving an exhaustive content for readers to get a deep understanding on the subjects the aim of this book is not only to just discuss the machine learning models but also focus on explaining the core of machine learning with simple examples on regression classifications etc and then discuss a practical approach and steps to build a productionized machine learning models with a practical feature engineering as you read through the book hopefully the myths of ai and machine learning will be debunked and you will get a very granular basic to an implementation level understanding and approach of developing ml applications at the time of writing and conceptualizing this book in 2019 the authors ensured to keep the content precise and limit the length of the book in the range of 100 150 pages for those lazy but smart engineers out there after you read this book you can expect to understand the commonly used terminologies of machine learning artificial intelligence learn a little bit of python enough to be able to write your own ml code use tensorflow to build productionized models

What's New in TensorFlow 2.0 2019-08-12 get to grips with key structural changes in 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 0 apismigrate your existing code from tensorflow 1 x to tensorflow 2 0 seamlesslybook description tensorflow is an end to end machine learning platform for experts as well as beginners and its new version tensorflow 2 0 tf 2 0 improves its simplicity and ease of use this book will help you understand and utilize the latest tensorflow features what s new in tensorflow 2 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 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 keras api 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 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 by the end of the book you ll have learned about compatibility between tf 2 0 and tf 1 x and be able to migrate to tf 2 0 smoothly what you will learnimplement tf keras apis in tf 2 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 0 and explore the latest features of tensorflow 2 0 this book is for you prior experience with tensorflow and python programming is necessary to understand the concepts covered in the book

Hands-On Neural Networks with TensorFlow 2.0 2019-09-13 a comprehensive guide to developing neural network based solutions using tensorflow 2 0 key features understand the basics of machine learning and discover the power of neural networks and deep learning explore the structure of the tensorflow framework and understand how to transition to tf 2 0 solve any deep learning problem by developing neural network based solutions using tf 2 0 book 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 with tensorflow tf 2 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 this book covers machine learning with a focus on developing neural network based solutions you ll start by getting familiar with the concepts and techniques required to build solutions to deep learning problems 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 0 tools such as tensorflow datasets and tensorflow hub by the end of this tensorflow book you ll be ready to solve any machine learning problem by developing solutions using tf 2 0 and putting them into production what you will learn grasp machine learning and neural network techniques to solve challenging tasks apply the new features of tf 2 0 to speed up development use tensorflow datasets tfds and the tf data api to build high efficiency data input pipelines perform transfer learning and fine tuning with tensorflow hub define and train networks to solve object detection and semantic segmentation problems train generative adversarial networks gans to generate images and data distributions use the savedmodel file format to put a model or a generic computational graph into production who 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 0 this book is for you experienced machine learning engineers who want to master the new features of the tensorflow framework will also find this book useful basic knowledge of calculus and a strong understanding of python programming will help you grasp the topics covered in this book

Machine Learning Using TensorFlow Cookbook 2021-02-08 comprehensive recipes to give you valuable insights on transformers reinforcement learning and more key featuresdeep learning solutions from kaggle masters and google developer expertsget to grips with the fundamentals including variables matrices and data sourceslearn advanced techniques to make your algorithms faster and more accuratebook description the independent recipes in machine learning using tensorflow cookbook will teach you how to perform complex data computations and gain valuable insights into your data dive into recipes on training models model evaluation sentiment analysis regression analysis artificial neural networks and deep learning each using google s machine learning library tensorflow this cookbook covers the fundamentals of the tensorflow library including variables matrices and various data sources you ll discover real world implementations of keras and tensorflow and learn how to use estimators to train linear models and boosted trees both for classification and regression explore the practical applications of a variety of deep learning architectures such as recurrent neural networks and transformers and see how they can be used to solve computer vision and natural language processing nlp problems with the help of this book you will be proficient in using tensorflow understand deep learning from the basics and be able to implement machine learning algorithms in real world scenarios what you will learntake tensorflow into productionimplement and fine tune transformer models for various nlp tasksapply reinforcement learning algorithms using the tf agents frameworkunderstand linear regression techniques and use estimators to train linear modelsexecute neural networks and improve predictions on tabular datamaster convolutional neural networks and recurrent neural networks through practical recipeswho this book is for if you are a data scientist or a machine learning engineer and you want to skip detailed theoretical explanations in favor of building production ready machine learning models using tensorflow this book is for you basic familiarity with python linear algebra statistics and machine learning is necessary to make the most out of this book

TensorFlow 2.0 Computer Vision Cookbook 2021-02-26 get well versed with state of the art techniques to tailor training processes and boost the performance of computer vision models using machine learning and deep learning techniques key featuresdevelop train and use deep learning algorithms for computer vision tasks using tensorflow 2 xdiscover practical recipes to overcome various challenges faced while building computer vision modelsenable machines to gain a human level understanding to recognize and analyze digital images and videosbook description computer vision is a scientific field that enables machines to identify and process digital images and videos this book focuses on independent recipes to help you perform various computer vision tasks using tensorflow the book begins by taking you through the basics of deep learning for computer vision along with covering tensorflow 2 x s key features such as the keras and tf data dataset apis you ll then learn about the ins and outs of common computer vision tasks such as image classification transfer learning image enhancing and styling and object detection the book also covers autoencoders in domains such as inverse image search indexes and image denoising while offering insights into various architectures used in the recipes such as convolutional neural networks cnns region based cnns r cnns vggnet and you only look once yolo moving on you ll discover tips and tricks to solve any problems faced while building various computer vision applications finally you ll delve into more advanced topics such as generative adversarial networks gans video processing and automl concluding with a section focused on techniques to help you boost the performance of your networks by the end of this tensorflow book you ll be able to confidently tackle a wide range of computer vision problems using tensorflow 2 x what you will learnunderstand how to detect objects using state of the art models such as yolov3use automl to predict gender and age from imagessegment images using different approaches such as fcns and generative modelslearn how to improve your network s performance using rank n accuracy label smoothing and test time augmentationenable machines to recognize people s emotions in videos and real time streamsaccess and reuse advanced tensorflow hub models to perform image classification and object detectiongenerate captions for images using cnns and rnnswho this book is for this book is for computer vision developers and engineers as well as deep learning practitioners looking for go to solutions to various problems that commonly arise in computer vision you will discover how to employ modern machine learning ml techniques and deep learning architectures to perform a plethora of computer vision tasks basic knowledge of python programming and computer vision is required

Deep Learning with TensorFlow 2 and Keras 2019-12-27 build machine and deep learning systems with the newly released tensorflow 2 and keras for the lab production and mobile devices key featuresintroduces and then uses tensorflow 2 and keras right from the startteaches key machine and deep learning techniquesunderstand the fundamentals of deep learning and machine learning through clear explanations and extensive code samplesbook description deep learning with tensorflow 2 and keras second edition teaches neural networks and deep learning techniques alongside tensorflow tf and keras you ll learn how to write deep learning applications in the most powerful popular and scalable machine learning stack available tensorflow is the machine learning library of choice for professional applications while keras offers a simple and powerful python api for accessing tensorflow tensorflow 2 provides full keras integration making advanced machine learning easier and more convenient than ever before this book also introduces neural networks with tensorflow runs through the main applications regression convnets cnns gans rnns nlp covers two working example apps and then dives into tf in production tf mobile and using tensorflow with automl what you will learnbuild machine learning and deep learning systems with tensorflow 2 and the keras apiuse regression analysis the most popular approach to machine learningunderstand convnets convolutional neural networks and how they are essential for deep learning systems such as image classifiersuse gans generative adversarial networks to create new data that fits with existing patternsdiscover rnns recurrent neural networks that can process sequences of input intelligently using one part of a sequence to correctly interpret anotherapply deep learning to natural human language and interpret natural language texts to produce an appropriate responsetrain your models on the cloud and put tf to work in real environmentsexplore how google tools can automate simple ml workflows without the need for complex modelingwho this book is for this book is for python developers and data scientists who want to build machine learning and deep learning systems with tensorflow this book gives you the theory and practice required to use keras tensorflow 2 and automl to build machine learning systems some knowledge of machine learning is expected

TensorFlow Machine Learning Cookbook 2018-08-31 skip the theory and get the most out of tensorflow to build production ready machine learning models key features exploit the features of tensorflow to build and deploy machine learning models train neural networks to tackle real world problems in computer vision and nlp handy techniques to write production ready code for your tensorflow models book description tensorflow is an open source software library for machine intelligence the independent recipes in this book will teach you how to use tensorflow for complex data computations and allow you to dig deeper and gain more insights into your data than ever before with the help of this book you will work with recipes for training models model evaluation sentiment analysis regression analysis clustering analysis artificial neural networks and more you will explore rnns cnns gans reinforcement learning and capsule networks each using google s machine learning library tensorflow through real world examples you will get hands on experience with linear regression techniques with tensorflow once you are familiar and comfortable with the tensorflow ecosystem you will be shown how to take it to production by the end of the book you will be proficient in the field of machine intelligence using tensorflow you will also have good insight into deep learning and be capable of implementing machine learning algorithms in real world scenarios what you will learn become familiar with the basic features of the tensorflow library get to know linear regression techniques with tensorflow learn svms with hands on recipes implement neural networks to improve predictive modeling apply nlp and sentiment analysis to your data master cnn and rnn through practical recipes implement the gradient boosted random forest to predict housing prices take tensorflow into production who this book is for if you are a data scientist or a machine learning engineer with some knowledge of linear algebra statistics and machine learning this book is for you if you want to skip the theory and build production ready machine learning models using tensorflow without reading pages and pages of material this book is for you some background in python programming is assumed

Hands-On Computer Vision with TensorFlow 2 2019-05-30 a practical guide to building high performance systems for object detection segmentation video processing smartphone applications and more key featuresdiscover how to build train and serve your own deep neural networks with tensorflow 2 and kerasapply modern solutions to a wide range of applications such as object detection and video analysislearn how to run your models on mobile devices and web pages and improve their performancebook description computer vision solutions are becoming increasingly common making their way into fields such as health automobile social media and robotics this book will help you explore tensorflow 2 the brand new version of google s open source framework for machine learning you will understand how to benefit from using convolutional neural networks cnns for visual tasks hands on computer vision with tensorflow 2 starts with the fundamentals of computer vision and deep learning teaching you how to build a neural network from scratch you will discover the features that have made tensorflow the most widely used ai library along with its intuitive keras interface you ll then move on to building training and deploying cnns efficiently complete with concrete code examples the book demonstrates how to classify images with modern solutions such as inception and resnet and extract specific content using you only look once yolo mask r cnn and u net you will also build generative adversarial networks gans and variational autoencoders vaes to create and edit images and long short term memory networks lstms to analyze videos in the process you will acquire advanced insights into transfer learning data augmentation domain adaptation and mobile and web deployment among other key concepts by the end of the book you will have both the theoretical understanding and practical skills to solve advanced computer vision problems with tensorflow 2 0 what you will learncreate your own neural networks from scratchclassify images with modern architectures including inception and resnetdetect and segment objects in images with yolo mask r cnn and u nettackle problems faced when developing self driving cars and facial emotion recognition systemsboost your application s performance with transfer learning gans and domain adaptationuse recurrent neural networks rnns for video analysisoptimize and deploy your networks on mobile devices and in the browserwho this book is for if you re new to deep learning and have some background in python programming and image processing like reading writing image files and editing pixels this book is for you even if you re an expert curious about the new tensorflow 2 features you ll find this book useful while some theoretical concepts require knowledge of algebra and calculus the book covers concrete examples focused on practical applications such as visual recognition for self driving cars and smartphone apps

Machine Learning With Tensorflow 2020-07-03 machine learning with tensorflow tensorflow is a powerful open source software library for performing various numerical data flow graphs 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 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 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 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 now and learn how to do various machine learning tasks using tensorflow

Natural Language Processing with TensorFlow 2018-05-31 write modern natural language processing applications using deep learning algorithms and tensorflow key features focuses on more efficient natural language processing using tensorflow covers nlp as a field in its own right to improve understanding for choosing tensorflow tools and other deep learning approaches provides choices for how to process and evaluate large unstructured text datasets learn to apply the tensorflow toolbox to specific tasks in the most interesting field in artificial intelligence book description natural language processing nlp supplies the majority of data available to deep learning applications while tensorflow is the most important deep learning framework currently available natural language processing with tensorflow brings tensorflow and nlp together to give you invaluable tools to work with the immense volume of unstructured data in today s data streams and apply these tools to specific nlp tasks thushan ganegedara starts by giving you a grounding in nlp and tensorflow basics you ll then learn how to use word2vec including advanced extensions to create word embeddings that turn sequences of words into vectors accessible to deep learning algorithms chapters on classical deep learning algorithms like convolutional neural networks cnn and recurrent neural networks rnn demonstrate important nlp tasks as sentence classification and language generation you will learn how to apply high performance rnn models like long short term memory lstm cells to nlp tasks you will also explore neural machine translation and implement a neural machine translator after reading this book you will gain an understanding of nlp and you ll have the skills to apply tensorflow in deep learning nlp applications and how to perform specific nlp tasks what you will learn core concepts of nlp and various approaches to natural language processing how to solve nlp tasks by applying tensorflow functions to create neural networks strategies to process large amounts of data into word representations that can be used by deep learning applications techniques for performing sentence classification and language generation using cnns and rnns about employing state of the art advanced rnns like long short term memory to solve complex text generation tasks how to write automatic translation programs and implement an actual neural machine translator from scratch the trends and innovations that are paving the future in nlp who this book is for this book is for python developers with a strong interest in deep learning who want to learn how to leverage tensorflow to simplify nlp tasks fundamental python skills are assumed as well as some knowledge of machine learning and undergraduate level calculus and linear algebra no previous natural language processing experience required although some background in nlp or computational linguistics will be helpful

Hands-On Deep Learning with TensorFlow 2017-07-31 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 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 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 some familiarity with c or python is assumed 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 with deep learning going mainstream making sense of data and getting accurate results using deep networks is possible dan van boxel will be your guide to exploring the possibilities with deep learning he will enable you to understand data like never before 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 with dan s guidance you will dig deeper into the hidden layers of abstraction using raw data dan then shows you various complex algorithms for deep learning and various examples that use these deep neural networks you will also learn how to train your machine to craft new features to make sense of deeper layers of data 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 the help of novel practical examples you will become an ace at advanced multilayer networks image recognition and beyond style and approach this book is your go to guide to becoming a deep learning expert in your organization 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

Neural Network Programming with TensorFlow 2017-11-10 neural networks and their implementation decoded with tensorflow about this book develop a strong background in neural network programming from scratch using the popular tensorflow library use tensorflow to implement different kinds of neural networks from simple feedforward neural networks to multilayered perceptrons cnns rnns and more a highly practical guide including real world datasets and use cases to simplify your understanding of neural networks and their implementation who this book is for this book is meant for developers with a statistical background who want to work with neural networks though we will be using tensorflow as the underlying library for neural networks book can be used as a generic resource to bridge the gap between the math and the implementation of deep learning if you have some understanding of tensorflow and python and want to learn what happens at a level lower than the plain api syntax this book is for you what you will learn learn linear algebra and mathematics behind neural network dive deep into neural networks from the basic to advanced concepts like cnn rnn deep belief networks deep feedforward networks explore optimization techniques for solving problems like local minima global minima saddle points learn through real world examples like sentiment analysis train different types of generative models and explore autoencoders explore tensorflow as an example of deep learning implementation in detail if you re aware of the buzz surrounding the terms such as machine learning artificial intelligence or deep learning you might know what neural networks are ever wondered how they help in solving complex computational problem efficiently or how to train efficient neural networks this book will teach you just that you will start by getting a quick overview of the popular tensorflow library and how it is used to train different neural networks you will get a thorough understanding of the fundamentals and basic math for neural networks and why tensorflow is a popular choice then you will proceed to implement a simple feed forward neural network next you will master optimization techniques and algorithms for neural networks using tensorflow further you will learn to implement some more complex types of neural networks such as convolutional neural networks recurrent neural networks and deep belief networks in the course of the book you will be working on real world datasets to get a hands on understanding of neural network programming you will also get to train generative models and will learn the applications of autoencoders by the end of this book you will have a fair understanding of how you can leverage the power of tensorflow to train neural networks of varying complexities without any hassle while you are learning about various neural network implementations you will learn the underlying mathematics and linear algebra and how they map to the appropriate tensorflow constructs style and approach this book is designed to give you just the right number of concepts to back up the examples with real world use cases and problems solved this book is a handy guide for you each concept is backed by a generic and real world problem followed by a variation making you independent and able to solve any problem with neural networks all of the content is demystified by a simple and straightforward approach

Practical Java Programming for IoT, AI, and Blockchain 2019-07-02 learn practical uses for some of the hottest tech applications trending among technology professionals we are living in an era of digital revolution on the horizon many emerging digital technologies are being developed at a breathtaking speed whether we like it or not whether we are ready or not digital technologies are going to penetrate more and more deeper and deeper into every aspect of our lives this is going to fundamentally change how we live how we work and how we socialize java as a modern high level programming language is an excellent tool for helping us to learn these digital technologies as well as to develop digital applications such as iot ai cybersecurity blockchain and more practical java programming uses java as a tool to help you learn these new digital technologies and to be better prepared for the future changes gives you a brief overview for getting started with java programming dives into how you can apply your new knowledge to some of the biggest trending applications today helps you understand how to program java to interact with operating systems networking and mobile applications shows you how java can be used in trending tech applications such as iot internet of things ai artificial intelligence cybersecurity and blockchain get ready to find out firsthand how java can be used for connected home devices healthcare the cloud and all the hottest tech applications

入門機械学習パイプライン 2021-09-24 tensorflowのエコシステムを使用した機械学習パイプラインの構築方法を学ぶ レガシーなシステム保守から解放される

Getting Started with Deep Learning 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

ROS Robotics Projects 2019-12-18 build exciting robotics projects such as mobile manipulators self driving cars and industrial robots powered by ros machine learning and virtual reality key featurescreate and program cool robotic projects using powerful ros librariesbuild industrial robots like mobile manipulators to handle complex taskslearn how reinforcement learning and deep learning are used with rosbook description nowadays heavy industrial robots placed in workcells are being replaced by new age robots called cobots which don t need workcells they are used in manufacturing retail banks energy and healthcare among other domains one of the major reasons for this rapid growth in the robotics market is the introduction of an open source robotics framework called the robot operating system ros this book covers projects in the latest ros distribution ros melodic morenia with ubuntu bionic 18 04 starting with the fundamentals this updated edition of ros robotics projects introduces you to ros 2 and helps you understand how it is different from ros 1 you ll be able to model and build an industrial mobile manipulator in ros and simulate it in gazebo 9 you ll then gain insights into handling complex robot applications using state machines and working with multiple robots at a time this ros book also introduces you to new and popular hardware such as nvidia s jetson nano asus tinker board and beaglebone black and allows you to explore interfacing with ros you ll learn as you build interesting ros projects such as self driving cars making use of deep learning reinforcement learning and other key ai concepts by the end of the book you ll have gained the confidence to build interesting and intricate projects with ros what you will learngrasp the basics of ros and understand ros applicationsuncover how ros 2 is different from ros 1handle complex robot tasks using state machinescommunicate with multiple robots and collaborate to build apps with themexplore ros capabilities with the latest embedded boards such as tinker board s and jetson nanodiscover how machine learning and deep learning techniques are used with rosbuild a self driving car powered by rosteleoperate your robot using leap motion and a vr headsetwho this book is for if you re a student hobbyist professional or anyone with a passion for learning robotics and interested in learning about algorithms motion control and perception capabilities from scratch this book is for you this book is also ideal for anyone who wants to build a new product and for researchers to make the most of what s already available to create something new and innovative in the field of robotics

Introduction to Data Mining and Analytics 2020-02-03 data mining and analytics provides a broad and interactive overview of a rapidly growing field the exponentially increasing rate at which data is generated creates a corresponding need for professionals who can effectively handle its storage analysis and translation

AI and Machine Learning for On-Device Development 2021-08-12 chapter 2 introduction to computer vision using neurons for vision your first classifier recognizing clothing items the data fashion mnist a model architecture to parse fashion mnist coding the fashion mnist model transfer learning for computer vision summary chapter 3 introduction to ml kit building a face detection app on android step 1 create the app with android studio step 2 add and configure ml kit step 3 define the user interface step 4 add the images as assets step 5 load the ui with a default picture

Mastering Javascript 2023-09-06 cybellium ltd is dedicated to empowering individuals and organizations with the knowledge and skills they need to navigate the ever evolving computer science landscape securely and learn only the latest information available on any subject in the category of computer science including information technology it cyber security information security big data artificial intelligence ai engineering robotics standards and compliance our mission is to be at the forefront of computer science education offering a wide and comprehensive range of resources including books courses classes and training programs tailored to meet the diverse needs of any subject in computer science visit cybellium com for more books

□□□□□□□□□□□&□□□□□□□□□□□□TensorFlow□ 2021-06-20 この商品はタブレットなど大きいディスプレイを備えた端末で読むことに適しています また 文字だけを拡大することや 文字列のハイライト 検索 辞書の参照 引用などの機能が使用できません 大好評既刊書のtensorflow編 電子工作 深層学習 をテーマとし 深層学習を電子工作で利用するための方法を紹介 電子工作と深層学習のどちらか一方の知識しか持ち合わせていない場合でも理解できるよう 電子回路と深層学習の双方について丁寧に説明 深層学習だけではなく深層強化学習までを幅広くカバー 深層学習フレームワークの内部構造を可視化することで一層の理解が深まる

Mastering Python 2022-05-20 use advanced features of python to write high quality readable code and packages key features extensively updated for python 3 10 with new chapters on design patterns scientific programming machine learning and interactive python shape your scripts using key concepts like concurrency performance optimization asyncio and multiprocessing learn how advanced python features fit together to produce maintainable code book description even if you find writing python code easy writing code that is efficient maintainable and reusable is not so straightforward many of python s capabilities are underutilized even by more experienced programmers mastering python second edition is an authoritative guide to understanding advanced python programming so you can write the highest quality code this new edition has been extensively revised and updated with exercises four new chapters and updates up to python 3 10 revisit important basics including pythonic style and syntax and functional programming avoid common mistakes made by programmers of all experience levels make smart decisions about the best testing and debugging tools to use optimize your code s performance across multiple machines and python versions and deploy often forgotten python features to your advantage get fully up to speed with asyncio and stretch the language even further by accessing c functions with simple python calls finally turn your new and improved code into packages and share them with the wider python community if you are a python programmer wanting to improve your code quality and readability this python book will make you confident in writing high quality scripts and taking on bigger challenges what you will learn write beautiful pythonic code and avoid common python coding mistakes apply the power of decorators generators coroutines and metaclasses use different testing systems like pytest unittest and doctest track and optimize application performance for both memory and cpu usage debug your applications with pdb werkzeug and faulthandler improve your performance through asyncio multiprocessing and distributed computing explore popular libraries like dask numpy scipy pandas tensorflow and scikit learn extend python s capabilities with c c libraries and system calls who this book is for this book will benefit more experienced python programmers who wish to upskill serving as a reference for best practices and some of the more intricate python techniques even if you have been using python for years chances are that you haven t yet encountered every topic discussed in this book a good understanding of python programming is necessary

□□□□□□□□ 2017□ 11□□ [□□] 2017-09-23 この商品はタブレットなど大きいディスプレイを備えた端末で読むことに適しています また 文字だけを拡大することや 文字列のハイライト 検索 辞書の参照 引用などの機能が使用できません 電子版には冊子付録のコンテンツも収録しておりますが 紙版につくcd rom付録の収録はございません 電子化にあたり 著作権 使用権のない記事 写真 図表は掲載しておりません また 紙の本に付録が付いている場合 電子書籍 雑誌には含まれないこともあります 予めご了承ください 特集1 tensorflow kerasで機械学習 機械学習の原理を知ろう 機械学習プログラムの開発環境を構築 桜 ヒマワリ バラの判別に挑戦 前編 桜 ヒマワリ バラの判別に挑戦 後編 特集2 自分で作るブロックチェーンと仮想通貨 前編 特集3 html5 javascriptで将棋対局プログラムを作ろう 特集4 仮想通貨イーサリアムの マイニング に挑戦 特集5 すぐに使えるwebスクレイピング入門 特集6 はじめてのfpga

TensorFlowで学ぶ機械学習・ニューラルネットワーク 2018-04 tensorflowで機械学習のアルゴリズムを完全マスター

TensorFlowで学ぶ機械学習・ニューラルネットワーク 2018-04-27 この商品はタブレットなど大きいディスプレイを備えた端末で読むことに適しています また 文字だけを拡大することや 文字列のハイライト 検索 辞書の参照 引用などの機能が使用できません 本書は機械学習を始めたばかりの方にもtensorflowを初めて使う方にも 究極のガイドです コードを理解するにはpython プログラミングに関する知識が事前に必要ですが それ以外は機械学習の基本からtensorflowの実践的な使いこなしまでマスター可能です part 1では 機械学習とは何か といった探求と tensorflowが果たす重要な役割についてハイライトを当てます 1章では機械学習の用語と理論を紹介し 第2章ではtensorflowの利用を開始するために必要なことを解説します part 2では 基本的なアルゴリズムについて説明します 3章 6章のそれぞれの章で 回帰 分類 クラスタリング 隠れマルコフモデルについて解説します これらのアルゴリズムは 機械学習のあらゆる分野で利用できます part 3では tensorflowが真のパワーを発揮するニューラルネットワークについてそのベールをはがします 7章 12章では オートエンコーダー 強化学習 畳み込みニューラルネットワーク 再帰型ニューラルネットワーク シーケンス変換モデルおよびユーティリティーについて紹介します 経験豊かなtensorflowユーザーでない限り 最初にpart 1 1章と2章 を読むことをお勧めします そこをマスターしたら あとは本書の好きな章から読んでokです 機械学習やtensorflowを初めて使う方には究極のガイド本であり その基礎をバッチリマスターできます

Pythonと**Keras**によるディープラーニング 2018-05-28 この商品はタブレットなど大きいディスプレイを備えた端末で読むことに適しています また 文字だけを拡大することや 文字列のハイライト 検索 辞書の参照 引用などの機能が使用できません pythonベースのディープラーニングフレームワークkerasの開発者である筆者が 1人でも多くの人々がディープラーニングを利用できるよう実践解説します 本書はディープラーニングを一から学習したいと考えている人のために書かれています 数学的な表記を避け 代わりにコードを使って定量的な概念を説明することで 機械学習とディープラーニングの基本的な考えについて実践的な知識を養っていきます サンプルコードはpythonベースのディープラーニングフレームワークであるkerasに基づいており バックエンドエンジンとしてtensorflowを使用しています part 1では ディープラーニングを大まかに紹介 機械学習とニューラルネットワークを囲む状況といくつかの定義を示し 取り組みを開始するために必要な概念を説明します

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