Convolutional Neural Networks In Python Beginners Guide To Convolutional Neural Networks In Python

Here is the perfect comprehensive guide for readers with basic to intermediate level knowledge of machine learning and deep learning. It introduces tools such as NumPy for numerical processing, Pandas for panel data analysis, Matplotlib for visualization, Scikit-learn for machine learning, and Pytorch for deep learning with Python as the programming languages. It also serves as a long-term reference manual for the practitioners who will find solutions to commonly occurring scenarios. The book is divided into three sections. The first section introduces you to number crunching and data analysis tools using Python with in-depth explanation on environment configuration, data loading, numerical processing, data analysis, and visualizations. The second section covers machine learning basics and Scikit-learn library. It also explains supervised learning, unsupervised learning, implementation, and classification of regression algorithms, and ensemble learning methods in an easy manner with theoretical and practical lessons. The third section explains complex neural network architectures with details on internal working and implementation of convolutional neural networks. It further discusses neural network architectures for predicting sequences in form of recurrent neural networks and long short term memory. The final chapter contains a detailed end-to-end solution with neural networks in Pytorch. After completing Hands-on Machine Learning with Python, you will be able to implement machine learning and neural network solutions and extend them to your advantage. What You'll Learn Review data structures in NumPy and Pandas Demonstrate machine learning techniques and algorithm Understand supervised learning and unsupervised learning Examine convolutional neural networks and Recurrent neural networks Get acquainted with scikit-learn and PyTorch Who This Book Is For Data scientists, machine learning engineers, and software professionals with basic skills in Python programming.

Deep Learning Neural Networks is the fastest growing field in machine learning. It serves as a powerful computational tool for solving prediction, decision, diagnosis, detection and decision problems based on a well-defined computational architecture. It has been successfully applied to a broad field of applications ranging from computer security, speech recognition, image and video recognition to industrial fault detection, medical diagnostics and finance. This comprehensive textbook is the first in the new emerging field. Numerous case studies are succinctly demonstrated in the text. It is intended for use as a one-semester graduate-level university text and as a textbook for research and development establishments in industry, medicine and financial research.

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

Python Programming - 4 BOOK BUNDLE!! Book 1: Artificial Intelligence with Python What you will learn in this book: Different artificial intelligence approaches and goals How to define AI system Basic AI techniques Reinforcement learning How to build a recommender system Genetic and logic programming And much, much more... Book 2: Reinforcement Learning with Python What you will learn by reading this book: Types of fundamental machine learning algorithms in comparison to reinforcement learning Essentials of reinforcement learning process Marko decision processes and basic parameters How to integrate reinforcement learning algorithm using OpenAI Gym How to integrate Monte Carlo methods for prediction Monte Carlo tree search Dynamic programming in Python for policy evaluation, policy iteration and value iteration Temporal difference learning or TD And much, much more... Book 3: Reinforcement Learning with Python What you will learn by reading this book: Types of fundamental machine learning algorithms in comparison to reinforcement learning Essentials of reinforcement learning process Marko decision processes and basic parameters How to integrate reinforcement learning algorithm using OpenAI Gym How to integrate Monte Carlo methods for prediction Monte Carlo tree search Dynamic programming in Python for policy evaluation, policy iteration and value iteration Temporal difference learning or TD And much, much more... Book 4: Text Analytics with Python What you will learn by reading this book: Text analytics process How to build a corpus and analyze sentiment Named entity extraction with Groningen meaning bank corpus How to train your system Getting started with NLTK How to search syntax and tokenize sentences Automatic text summarization Stemming word and topic modeling with NLTK Using scikit-learn for text classification Part of speech tagging and POS tagging models in NLTK And much, much more... Get this book bundle NOW and SAVE money!

Deep Learning - A 2-book BUNDLE!! Book 1: Analyzing Data with Power BI If you are thinking of doing some data science work, first you have to get familiar with data libraries, various techniques of data modelling, in other words you have to dive into data analysis discipline with some fundamental understanding of this science. This book provides you that, fundamental of business and data analytics and insight into various data models and algorithms all written having a beginner in mind. Further chapters will introduce you to powerful business analytics tool provided by Microsoft Power BI. By the time you are done with the book you will master business analytics modelling with Power BI and share it to other users who are interested in same topic as you are. Data analytics also may be the right answer for you if you are involved in marketing management since it can help you with operating, strategic and financial performance. On the other hand Power BI will let you to ask all the right questions and help you to make wise business decisions. If this sounds good to you, lets dive in together into the data analysis with Power BI. In this book you will learn: Basics of data analysis processes Fundamental data analysis algorithms Basic of data and text mining, data visualization and business intelligence Techniques used for analysing quantitative data Basic data analysis tasks Conceptual, logical and physical data models Power BI service and data modelling Creating reports and visualizations in Power BI Data transformation and data cleaning in Power BI Real world applications of data analysis And much, much more!! Book 2: Convolutional Neural Networks in Python Deep learning has been a great part of various scientific fields and since this is my third book regarding this topic, you already know the great significance of deep

learning in comparison to traditional methods. At this point, you are also familiar with types of neural networks and their wide range of applications including image and speech recognition, natural language processing, video game development and other. On the other hand, this book is all about convolutional neural networks and how to use these neural networks in various tasks of automatic image and speech recognition in Python. You will also get a better insight into the architecture of convolutional layers as we are going deeper into this subject. Deep learning is pretty complex subject, but since you already have a fundamental knowledge of this topic, getting to know convolutional neural networks better is next logical step. In this book you will learn: Architecture of convolutional neural networks Solving computer vision tasks using convolutional neural networks Python and computer vision Automatic image and speech recognition Theano and TenroeFlow image recognition How to use MNIST vision dataset What are commonly used convolutional filters And much, much more!! Get this book bundle NOW and SAVE money!! Buy the Paperback version AND get this ebook bundle for FREE!!

Data Analytics - 7 BOOK BUNDLE!! Book 1: Data Analytics For Beginners In this book you will learn: What is Data Analytics Types of Data Analytics Evolution of Data Analytics Big Data Defined Data Mining Data Visualization Cluster Analysis And of course much more! Book 2: Deep Learning With Keras In this book you will learn: Deep Neural Network Neural Network Elements Keras Models Sequential Model Functional API Model Keras Layers Core Keras Layers Convolutional Keras Layers Recurrent Keras Layers Deep Learning Algorithms Supervised Learning Algorithms Applications of Deep Learning Models Automatic Speech and Image Recognition Natural Language Processing And of course much more! Book 3: Analyzing Data With Power BI In this book you will learn: Basics of data analysis processes Fundamental data analysis algorithms Basic of data and text mining, data visualization, and business intelligence Techniques used for analysing quantitative data Basic data analysis tasks Conceptual, logical, and physical data models Power BI service and data modelling Creating reports and visualizations in Power BI And of course much more! Book 4: Reinforcement Learning With Python In this book you will learn: Types of fundamental machine learning algorithms in comparison to reinforcement learning Essentials of reinforcement learning process Marko decision processes and basic parameters How to integrate reinforcement learning algorithm using OpenAI Gym How to integrate Monte Carlo methods for prediction Monte Carlo tree search And much, much more... Book 5: Artificial Intelligence Python In this book you will learn: Different artificial intelligence approaches and goals How to define AI system Basic AI techniques Reinforcement learning And much, much more... Book 6: Text Analytics With Python In this book you will learn: Text analytics process How to build a corpus and analyze sentiment Named entity extraction with Groningen meaning bank corpus How to train your system Getting started with NLTK How to search syntax and tokenize sentences Automatic text summarization Stemming word and topic modeling with NLTK And much, much more... Book 7: Convolutional Neural Networks In Python In this book you will learn: Architecture of convolutional neural networks Solving computer vision tasks using convolutional neural networks Python and computer vision Automatic image and speech recognition Theano and TenroeFlow image recognition And of course much more! Download this book bundle NOW and SAVE money!!

***** BUY NOW (will soon return to 24.77 $) *****Are you thinking of learning deep Learning using Python? (For Beginners Only) If you are looking for a beginners guide to learn deep learning, in just a few hours, this book is for you. From AI Sciences Publisher Our books may be the best one for beginners; it's a step-by-step guide for any person who wants to start learning Artificial Intelligence and Data Science from scratch. It will help you in preparing a solid foundation and learn any other high-level courses.To get the most out of the concepts that would be covered, readers are advised to adopt a hands on approach, which would lead to better mental representations.Step-by-Step Guide and Visual Illustrations and ExamplesThis book and the accompanying examples, you would be well suited to tackle problems, which pique your interests using machine learning and deep learning models. Book Objectives This book will help you: Have an appreciation for deep learning and an understanding of their fundamental principles. Have an elementary grasp of deep learning concepts and algorithms. Have achieved a technical background in deep learning and neural networks using Python. Target UsersThe book designed for a variety of target audiences. Anyone who is intrigued by how algorithms arrive at predictions but has no previous knowledge of the field. Software developers and engineers with a strong programming background but seeking to break into the field of machine learning. Seasoned professionals in the field of artificial intelligence and deep learning who desire a bird's eye view of current techniques and approaches. What's Inside This Book? Introduction What is Artificial Intelligence, Machine Learning and Deep Learning? Mathematical Foundations of Deep Learning Understanding Machine Learning Models Evaluation of Machine Learning Models: Overfitting, Underfitting, Bias Variance Tradeoff Fully Connected Neural Networks Convolutional Neural Networks Recurrent Neural Networks Generative Adversarial Networks Deep Reinforcement Learning Introduction to Deep Neural Networks with Keras A First Look at Neural Networks in Keras Introduction to Pytorch The Pytorch Deep Learning Framework Your First Neural Network in Pytorch Deep Learning for Computer Vision Build a Convolutional Neural Network Deep Learning for Natural Language Processing Working with Sequential Data Build a Recurrent Neural Network Frequently Asked Questions Q: Is this book for me and do I need programming experience?A: if you want to smash Deep Learning from scratch, this book is for you. Little programming experience is required. If you already wrote a few lines of code and recognize basic programming statements, you'll be OK. Q: Can I have a refund if this book doesn't fit for me?A: Yes, Amazon refund you if you aren't satisfied, for more information about the amazon refund service please go to the amazon help platform. We will also be happy to help you if you send us an email.***** MONEY BACK GUARANTEE BY AMAZON ***** Editorial Reviews"This is an excellent book, it is a very good introduction to deep learning and neural networks. The concepts and terminology are clearly explained. The book also points out several good locations on the internet where users can obtain more information. I was extremely happy with this book and I recommend it for all beginners" - Prof. Alain Simon, EDHEC Business School. Statistician and DataScientist.

Artificial intelligence is the rage today! While you may find it difficult to understand the most recent advancements in AI, it simply boils down to two most celebrated developments: Machine Learning and Deep Learning. In 2020, Deep Learning is leagues ahead because of its supremacy when it comes to accuracy, especially when trained with enormous amounts of data. Deep Learning, essentially, is a subset of Machine Learning, but it's capable of achieving tremendous power and flexibility. And the era of big data technology presents vast opportunities for incredible innovations in deep learning. How Is This Book Different? This book gives equal importance to the theoretical as well as practical aspects of deep learning. You will understand how high-performing deep learning algorithms work. In every chapter, the theoretical explanation of the different types of deep learning techniques is followed by practical examples. You will learn how to implement different deep learning techniques using the TensorFlow Keras library for Python. Each chapter contains exercises that you can use to assess your understanding of the concepts explained in that chapter. Also, in the Resources, the Python notebook for each chapter is provided. The key advantage of buying this book is you get instant access to all the extra content presented with this book--Python codes, references, exercises, and PDFs--on the publisher's website. You don't need to spend an extra cent. The datasets used in this book are either downloaded at runtime or are available in the Resources/Datasets folder. Another advantage is a detailed explanation of the installation steps for the software that you will need to implement the various deep learning algorithms in this book is provided. That is, you get to experiment with the practical aspects of Deep Learning right from page 1. Even if you are new to Python, you will find the crash course on Python programming language in the first chapter immensely useful. Since all the codes and datasets are included with this book, you only need access to a computer with the internet to get started. The topics covered include: Python Crash Course Deep Learning Prerequisites: Linear and Logistic Regression Neural Networks from Scratch in Python Introduction to TensorFlow and Keras Convolutional Neural Networks Sequence Classification with Recurrent Neural Networks Deep Learning for Natural Language Processing Unsupervised Learning with Autoencoders Answers to All Exercises Click the BUY button and download the book now to start your Deep Learning journey.

A step-by-step visual journey through the mathematics of neural networks, and making your own using Python and Tensorflow. What you will gain from this book: * A deep understanding of how a Neural Network works. * How to build a Neural Network from scratch using Python. Who this book is for: * Beginners who want to fully understand how networks work, and learn to build two step-by-step examples in Python. * Programmers who need an easy to read, but solid refresher, on the math of neural networks. What's Inside - 'Make Your Own Neural Network: An Indepth Visual Introduction For Beginners' What Is a Neural Network? Neural networks have made a gigantic comeback in the last few decades and you likely make use of them everyday without realizing it, but what exactly is a neural network? What is it used for and how does it fit within the broader arena of machine learning? we gently explore these topics so that we can be prepared to dive deep further on. To start, we'll begin with a high-level overview of machine learning and then drill down into the specifics of a neural network. The Math of Neural Networks On a high level, a network learns just like we do, through trial and error. This is true regardless if the network is supervised, unsupervised, or semi-supervised. Once we dig a bit deeper though, we discover that a handful of mathematical functions play a major role in the trial and error process. It also becomes clear that a grasp of the underlying mathematics helps clarify how a network learns. * Forward Propagation * Calculating The Total Error * Calculating The Gradients * Updating The Weights Make Your Own Artificial Neural Network: Hands on Example You will learn to build a simple neural network using all the concepts and functions we learned in the previous few chapters. Our example will be basic but hopefully very intuitive. Many examples available online are either hopelessly abstract or make use of the same data sets, which can be repetitive. Our goal is to be crystal clear and engaging, but with a touch of fun and uniqueness. This section contains the following eight chapters. Building Neural Networks in Python There are many ways to build a neural network and lots of tools to get the job done. This is fantastic, but it can also be overwhelming when you start, because there are so many tools to choose from. We are going to take a look at what tools are needed and help you nail down the essentials. To build a neural network Tensorflow and Neural Networks There is no single way to build a feedforward neural network with Python, and that is especially true if you throw Tensorflow into the mix. However, there is a general framework that exists that can be divided into five steps and grouped into two parts. We are going to briefly explore these five steps so that we are prepared to use them to build a network later on. Ready? Let's begin. Neural Network: Distinguish Handwriting We are going to dig deep with Tensorflow and build a neural network that can distinguish between handwritten numbers. We'll use the same 5 steps we covered in the high-level overview, and we are going to take time exploring each line of code. Neural Network: Classify Images 10 minutes. That's all it takes to build an image classifier thanks to Google! We will provide a high-level overview of how to classify images using a convolutional neural network (CNN) and Google's Inception V3 model. Once finished, you will be able to tweak this code to classify any type of image sets! Cats, bats, super heroes - the sky's the limit.

This book is not only for programmers and IT professionals but also for businesspeople who are looking forward to boosting their average sales and customer experience. This book contains all the relevant topics that you'll want to know about deep learning neural networks. You will learn some amazing facts about the role of artificial intelligence in our daily lives. Deep learning is gradually inching toward grabbing hold of all businesses across the world. What makes this book interesting and unique is the fact that it contains practical examples of deep learning neural network that you can study to increase your understanding of these neural networks. The book explains how, as a professional, you can introduce AI in your operations. You'll discover: -Python Data Types-Python User Input and Loops-Python Input()-Python Loops-Python Functions-Python Classes-Artificial Intelligence -Machine Learning-Deep Learning -Linear Regression -Artificial Intelligence in Business-AI in Business-AI in Customer Service-Self-Driving Cars-Generation of Texts-Predicting Earthquake and Cancer-The Future of Deep Learning-Artificial Neural Networks-Convolutional Neural Network-Implementation Using Keras-Deep Learning with Keras-Project Debater-IBM Watson-Ethical Implications of Deep Learning-Loss of Jobs-Racist Robots-Drawbacks of Deep LearningSo what are you waiting for? Get started today by clicking the Buy Now button!Are you interested in taking your deep learning knowledge to the next level? Then this is the book for you! Machine and deep learning are the future, and there's no getting away from that. So learning it now, and learning how to do it the right way will put you ahead of the crowd. Deep learning is all about understanding and learning about neural networks, and Python is the best computer programming language to do that with. Learning to program is not easy, but consistent practice is the key. Learning to program efficiently in Python and building deep learning neural networks becomes simple to do with practice and guidance.In this book, you will learn: -The basics of the Python programming language-All about variables, strings, classes, statements, dictionaries, functions, and more-What Artificial Intelligence is-What Deep Learning is-How to build a deep neural network with Keras-How to build a deep learning convolutional neural network-The practical applications of deep learning-The benefits and the drawbacks of deep learningAnd so much more!Don't delay. Start your advanced deep learning journey today by clicking the Buy Now button!

Deep learning and data science using a Python and Keras library - A complete guide to take you from a beginner to professional About This Video Learn data science using a Python and Keras library Learn convolutional neural networks using Python In Detail The world has been obsessed with the terms "machine learning" and "deep learning" recently. We use these technologies every day with or without our knowledge through Google suggestions, translations, ads, movie recommendations, friend suggestions, and sales and customer experiences. There are tons of other applications too! No wonder that deep learning and machine learning specialists, along with data science practitioners, are the most sought-after talent in the technology world. However, it's a common misconception that you need to study lots of mathematics, statistics, and complex algorithms for learning these technologies. It's like believing that you must learn the working of a combustion engine before you learn how to drive a car. A basic know-how of the internal working of the engine is of course an added advantage, but it's not mandatory. Similarly, this course is a perfect balance between learning the basic deep learning concepts and implementing the built-in deep learning classes and functions from the Keras library using the Python programming language. These classes, functions and APIs are just like the control pedals of a car engine, which you can use to build an efficient deep-learning model. This is a basic-to-advanced crash course in deep learning, neural networks, and convolutional neural networks using Keras and Python. It'll help you skill up to meet the demand of the tech world and skyrocket your career prospects. Downloading the example code for this course: You can download the example code files for this course on GitHub at the following link: https://github.com/PacktPublishing/Deep-Learning-and-Neural-Networks-using-Python--Keras-The-Complete-Beginners-Guide . If you require support please email: customercare@packt.com.

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-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 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!

This must-read text/reference introduces the fundamental concepts of convolutional neural networks (ConvNets), offering practical guidance on using libraries to implement ConvNets in applications of traffic sign detection and classification. The work presents techniques for optimizing the computational efficiency of ConvNets, as well as visualization techniques to better understand the underlying processes. The proposed models are also thoroughly evaluated from different perspectives, using exploratory and quantitative analysis. Topics and features: explains the fundamental concepts behind training linear classifiers and feature learning; discusses the wide range of loss functions for training binary and multi-class classifiers; illustrates how to derive ConvNets from fully connected neural networks, and reviews different techniques for evaluating neural networks; presents a practical library for implementing ConvNets, explaining how to use a Python interface for the library to create and assess neural networks; describes two real-world examples of the detection and classification of traffic signs using deep learning methods; examines a range of varied techniques for visualizing neural networks, using a Python interface; provides self-study exercises at the end of each chapter, in addition to a helpful glossary, with relevant Python scripts supplied at an associated website. This self-contained guide will benefit those who seek to both understand the theory behind deep learning, and to gain hands-on experience in implementing ConvNets in practice. As no prior background knowledge in the field is required to follow the material, the book is ideal for all students of computer vision and machine learning, and will also be of great interest to practitioners working on autonomous cars and advanced driver assistance systems.

Master Convolutional Neural Networks (CNNs). Follow along with machine learning expert Advait Jayant through a combination of lecture and hands-on to practice applying CNNs to analyze visual imagery. Follow along with Advait and implement CNNs in Python using the numpy, matplotlib, pandas, keras, and cv2 libraries. Also here are all of Advait Jayant's highly-rated videos on O'Reilly, including the full Data Science and Machine Learning Series . The following eight topics will be covered in this Data Science and Machine Learning course: Introducing Convolutional Neural Networks (CNNs) . Be able to explain Convolutional Neural Networks (CNNs) in this first topic in the Data Science and Machine Learning Series. Know the challenge with multi-layer perceptrons for overfitting and variation. Learn how CNNs work and why they are very important to analyzing visual imagery. Implementing Convolutional Neural Networks (CNNs) and Filters . Implement Neural Networks (CNNs) and filters in this second topic in the Data Science and Machine Learning Series. Follow along with Advait and implement CNNs and filters in Python using the numpy, matplotlib, and cv2 libraries. Convolutional Layers . Be able to explain convolutional layers in this third topic in the Data Science and Machine Learning Series. Follow along with Advait and practice using convolutional layers to extract different kinds of filters and combine multiple activation maps. Same Convolutions, Padding, and Strides . Apply same convolutions, padding, and strides in this fourth topic in the Data Science and Machine Learning Series. Same convolutions are those where the dimensions of the output image are the same as that of the input image. Same convolutions are achieved using padding. Follow along with Advait and implement same convolutions, padding, and strides in Python using the numpy, matplotlib, and cv2 libraries. Pooling Layers . Implement pooling layers in this fifth topic in the Data Science and Machine Learning Series. Follow along with Advait and practice working with max-pooling and average-pooling layers. Implementing Pooling Layers . Implement pooling layers in this sixth topic in the Data Science and Machine Learning Series. Follow along with Advait and implement pooling layers in Python using the numpy, matplotlib, and cv2 libraries. CNN Dropouts . Apply Convolutional Neural Networks (CNN) dropouts to prevent overfitting in this seventh topic in the Data Science and Machine Learning S...

Gain insights into image-processing methodologies and algorithms, using machine learning and neural networks in Python. This book begins with the environment setup, understanding basic image-processing terminology, and exploring Python concepts that will be useful for implementing the algorithms discussed in the book. You will then cover all the core image processing algorithms in detail before moving onto the biggest computer vision library: OpenCV. You'll see the OpenCV algorithms and how to use them for image processing. The next section looks at advanced machine learning and deep learning methods for image processing and classification. You'll work with concepts such as pulse coupled neural networks, AdaBoost, XG boost, and convolutional neural networks for image-specific applications. Later you'll explore how models are made in real time and then deployed using various DevOps tools. All the concepts in Practical Machine Learning and Image Processing are explained using real-life scenarios. After reading this book you will be able to apply image processing techniques and make machine learning models for customized application. What You Will Learn Discover image-processing algorithms and their applications using Python Explore image processing using the OpenCV library Use TensorFlow, scikit-learn, NumPy, and other libraries Work with machine learning and deep learning algorithms for image processing Apply image-processing techniques to five real-time projects Who This Book Is For Data scientists and software developers interested in image processing and computer vision.

This dataset is designed for teaching the convolutional neural network (CNN). The dataset is a subset of data derived from the 1998 MNIST dataset of handwritten digits, and the example demonstrates how to train the CNN to recognize handwritten digits in images. The dataset file is accompanied by a Teaching Guide, a Student Guide, and a How-to Guide for Python.

Deploy deep learning applications into production across multiple platforms. You will work on computer vision applications that use the convolutional neural network (CNN) deep learning model and Python. This book starts by explaining the traditional machine-learning pipeline, where you will analyze an image dataset. Along the way you will cover artificial neural networks (ANNs), building one from scratch in Python, before optimizing it using genetic algorithms. For automating the process, the book highlights the limitations of traditional hand-crafted features for computer vision and why the CNN deep-learning model is the state-of-art solution. CNNs are discussed from scratch to demonstrate how they are different and more efficient than the fully connected ANN (FCNN). You will implement a CNN in Python to give you a full understanding of the model. After consolidating the basics, you will use TensorFlow to build a practical image-recognition model that you will deploy to a web server using Flask, making it accessible over the Internet. Using Kivy and NumPy, you will create cross-platform data science applications with low overheads. This book will help you apply deep learning and computer vision concepts from scratch, step-by-step from conception to production. What You Will Learn Understand how ANNs and CNNs work Create computer vision applications and CNNs from scratch using Python Follow a deep learning project from conception to production using TensorFlow Use NumPy with Kivy to build cross-platform data science applications Who This Book Is ForData scientists, machine learning and deep learning engineers, software developers.

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

Learn how to apply TensorFlow to a wide range of deep learning and Machine Learning problems with this practical guide on training CNNs for image classification, image recognition, object detection and many computer vision challenges. Key Features Learn the fundamentals of Convolutional Neural Networks Harness Python and Tensorflow to train CNNs Build scalable deep learning models that can process millions of items Book Description Convolutional Neural Networks (CNN) are one of the most popular architectures used in computer vision apps. This book is an introduction to CNNs through solving real-world problems in deep learning while teaching you their implementation in popular Python library - TensorFlow. By the end of the book, you will be training CNNs in no time! We start with an overview of popular machine learning and deep learning models, and then get you set up with a TensorFlow development environment. This environment is the basis for implementing and training deep learning models in later chapters. Then, you will use Convolutional Neural Networks to work on problems such as image classification, object detection, and semantic segmentation. After that, you will use transfer learning to see how these models can solve other deep learning problems. You will also get a taste of implementing generative models such as autoencoders and generative adversarial networks. Later on, you will see useful tips on machine learning best practices and troubleshooting. Finally, you will learn how to apply your models on large datasets of millions of images. What you will learn Train machine learning models with TensorFlow Create systems that can evolve and scale during their life cycle Use CNNs in image recognition and classification Use TensorFlow for building deep learning models Train popular deep learning models Fine-tune a neural network to improve the quality of results with transfer learning Build TensorFlow models that can scale to large datasets and systems Who this book is for This book is for Software Engineers, Data Scientists, or Machine Learning practitioners who want to use CNNs for solving real-world problems. Knowledge of basic machine learning concepts, linear algebra and Python will help.

This book doesn't have any superpowers or magic formula to help you master the art of neural networks and deep learning. We believe that such learning is all in your heart. You need to learn a concept by heart and then brainstorm its different possibilities. I don't claim that after reading this book you will become an expert in Python and Deep Learning Neural Networks. Instead, you will, for sure, have a basic understanding of deep learning and its implications and real-life applications. Most of the time, what confuses us is the application of a certain thing in our lives. Once we know that, we can relate the subject

to that particular thing and learn. An interesting thing is that neural networks also learn the same way. This makes it easier to learn about them when we know the basics. Let's take a look at what this book has to offer: ? The basics of Python including data types, operators and numbers. ? Advanced programming in Python with Python expressions, types and much more. ? A comprehensive overview of deep learning and its link to the smart systems that we are now building. ? An overview of how artificial neural networks work in real life. ? An overview of PyTorch. ? An overview of TensorFlow. ? An overview of Keras. ? How to create a convolutional neural network. ? A comprehensive understanding of deep learning applications and its ethical implications, including in the present and future. This book offers you the basic knowledge about Python and Deep Learning Neural Networks that you will need to lay the foundation for future studies. This book will start you on the road to mastering the art of deep learning neural networks. When I say that I don't have the magic formula to make you learn, I mean it. My point is that you should learn Python coding and Python libraries to build neural networks by practicing hard. The more you practice, the better it is for your skills. It is only after thorough and in depth practice that you will be able to create your own programs. Unlike other books, I don't claim that this book will make you a master of deep learning after a single read. That's not realistic, in fact, it's even a bit absurd. What I claim is that you will definitely learn about the basics. The rest is practice. The more you practice the better you code.

Conceptualizing deep learning in computer vision applications using PyTorch and Python libraries. KEY FEATURES ? Covers a variety of computer vision projects, including face recognition and object recognition such as Yolo, Faster R-CNN. ? Includes graphical representations and illustrations of neural networks and teaches how to program them. ? Includes deep learning techniques and architectures introduced by Microsoft, Google, and the University of Oxford. DESCRIPTION Elements of Deep Learning for Computer Vision gives a thorough understanding of deep learning and provides highly accurate computer vision solutions while using libraries like PyTorch. This book introduces you to Deep Learning and explains all the concepts required to understand the basic working, development, and tuning of a neural network using Pytorch. The book then addresses the field of computer vision using two libraries, including the Python wrapper/version of OpenCV and PIL. After establishing and understanding both the primary concepts, the book addresses them together by explaining Convolutional Neural Networks(CNNs). CNNs are further elaborated using top industry standards and research to explain how they provide complicated Object Detection in images and videos, while also explaining their evaluation. Towards the end, the book explains how to develop a fully functional object detection model, including its deployment over APIs. By the end of this book, you are well-equipped with the role of deep learning in the field of computer vision along with a guided process to design deep learning solutions. WHAT YOU WILL LEARN ? Get to know the mechanism of deep learning and how neural networks operate. ? Learn to develop a highly accurate neural network model. ? Access to rich Python libraries to address computer vision challenges. ? Build deep learning models using PyTorch and learn how to deploy using the API. ? Learn to develop Object Detection and Face Recognition models along with their deployment. WHO THIS BOOK IS FOR This book is for the readers who aspire to gain a strong fundamental understanding of how to infuse deep learning into computer vision and image processing applications. Readers are expected to have intermediate Python skills. No previous knowledge of PyTorch and Computer Vision is required. TABLE OF CONTENTS 1. An Introduction to Deep Learning 2. Supervised Learning 3. Gradient Descent 4. OpenCV with Python 5. Python Imaging Library and Pillow 6. Introduction to Convolutional Neural Networks 7. GoogLeNet, VGGNet, and ResNet 8. Understanding Object Detection 9. Popular Algorithms for Object Detection 10. Faster RCNN with PyTorch and YoloV4 with Darknet 11. Comparing Algorithms and API Deployment with Flask 12. Applications in Real World

Convolutional Neural Networks In PythonBeginner's Guide To Convolutional Neural Networks In PythonFrank Millstein

The book introduces the latest methods and algorithms developed in machine and deep learning (hybrid symbolic-numeric computations, robust statistical techniques for clustering and eliminating data as well as convolutional neural networks) dealing not only with images and the use of computers, but also their applications to visualization tasks generalized by up-to-date points of view. Associated algorithms are deposited on iCloud.

Build your Machine Learning portfolio by creating 6 cutting-edge Artificial Intelligence projects using neural networks in Python Key Features Discover neural network architectures (like CNN and LSTM) that are driving recent advancements in AI Build expert neural networks in Python using popular libraries such as Keras Includes projects such as object detection, face identification, sentiment analysis, and more Book Description Neural networks are at the core of recent AI advances, providing some of the best resolutions to many real-world problems, including image recognition, medical diagnosis, text analysis, and more. This book goes through some basic neural network and deep learning concepts, as well as some popular libraries in Python for implementing them. It contains practical demonstrations of neural networks in domains such as fare prediction, image classification, sentiment analysis, and more. In each case, the book provides a problem statement, the specific neural network architecture required to tackle that problem, the reasoning behind the algorithm used, and the associated Python code to implement the solution from scratch. In the process, you will gain hands-on experience with using popular Python libraries such as Keras to build and train your own neural networks from scratch. By the end of this book, you will have mastered the different neural network architectures and created cutting-edge AI projects in Python that will immediately strengthen your machine learning portfolio. What you will learn Learn various neural network architectures and its advancements in AI Master deep learning in Python by building and training neural network Master neural networks for regression and classification Discover convolutional neural networks for image recognition Learn sentiment analysis on textual data using Long Short-Term Memory Build and train a highly accurate facial recognition security system Who this book is for This book is a perfect match for data scientists, machine learning engineers, and deep learning enthusiasts who wish to create practical neural network projects in Python. Readers should already have some basic knowledge of machine learning and neural networks.

This book is a collection of notes and sample codes written by the author while he was learning Neural Networks in Machine Learning. Topics include Neural Networks (NN) concepts: nodes, layers, activation functions, learning rates, training sets, etc.; deep playground for classical neural networks; building neural networks with Python; walking through Tariq Rashi's 'Make Your Own Neural Network' source code; using 'TensorFlow' and 'PyTorch' machine learning platforms; understanding CNN (Convolutional Neural Network), RNN (Recurrent Neural Network), GNN (Graph Neural Network). Updated in 2020 (Version 1.20) with Deep Playground tutorials. For latest updates and free sample chapters, visit http://www.herongyang.com/Neural-Network.

Big Data - 4 book BUNDLE!! Data Analytics for Beginners In this book you will learn: Putting Data Analytics to Work The Rise of Data Analytics Big Data Defined Cluster Analysis Applications of Cluster Analysis Commonly Graphed Information Data Visualization Four Important Features of Data Visualization Software Big Data Impact Envisaged by 2020 Pros and Cons of Big Data Analytics And of course much more! Deep Learning with Keras In this book you will learn: Deep Neural Network Neural Network Elements Keras Models Sequential Model Functional API Model Keras Layers Core Keras Layers Convolutional Keras Layers Recurrent Keras Layers Deep Learning Algorithms Supervised Learning Algorithms Applications of Deep Learning Models Automatic Speech and Image Recognition Natural Language Processing Video Game Development Real World Applications And of course much more! Analyzing Data with Power BI In this book you will learn: Basics of data analysis processes Fundamental data analysis algorithms Basic of data and text mining, data visualization and business intelligence Techniques used for analysing quantitative data Basic data analysis tasks Conceptual, logical and physical data models Power BI service and data modelling Creating reports and visualizations in Power BI Data transformation and data cleaning in Power BI Real world applications of data analysis Convolutional

Neural Networks In Python In this book you will learn: Architecture of convolutional neural networks Solving computer vision tasks using convolutional neural networks Python and computer vision Automatic image and speech recognition Theano and TenroeFlow image recognition How to use MNIST vision dataset What are commonly used convolutional filters Download this book bundle NOW and SAVE money!!

Become A Deep Learning Expert With Python! Machine Learning is probably the most important and fastest-growing industry in today's world. It's a much hyped term and nowadays it can be found almost everywhere. In robots, video games, the stock market, home appliances and even in cars. Most of the biggest advancements are made with Neural Networks! These are complex machine learning structures that are inspired by the human brain! The people who don't educate themselves on this matter will be overrun by the development instead of being a part of it. In this sixth volume of The Python Bible, you will learn deep learning in Python from scratch. We will start with the theoretical understanding of Neural Networks and basic algorithms like Gradient Descent or Backpropagation. Then we will work on awesome projects like recognizing handwritten digits, generating poetic texts and recognizing objects on images! After Reading This Book You Will Have The Following Skills: - Deep Understanding of Neural Networks- Recognizing Handwritten Digits Using Machine Learning- Generating Poetic d104s with Neural Networks- Predicting Sequential Data (Stocks, Weather etc.) with Recurrent Neural Networks- Processing Audio and Video Data- Recognizing Objects Like Horses, Cars and Trucks on Images- Understanding Recurrent Neural Networks- Understanding Convolutional Neural Networks Master Deep Learning With Python!

This book deals with one of the hot topic in artificial intelligence, Computer vison which has grown a lot in recent years due to what is known as Convolution Neural Networks. Which will be discussed throughout the book. The book assumes that you are familiar with the traditional neural networks and with prior experience in python programming.Skills You will learn: -Convolution Neural Networks-Creating a dataset from scratch-Tensorflow-Keras-Fastai-Resnets-Neural Style Transfer

Deep Learning - 2 BOOK BUNDLE!! Deep Learning with Keras This book will introduce you to various supervised and unsupervised deep learning algorithms like the multilayer perceptron, linear regression and other more advanced deep convolutional and recurrent neural networks. You will also learn about image processing, handwritten recognition, object recognition and much more. Furthermore, you will get familiar with recurrent neural networks like LSTM and GAN as you explore processing sequence data like time series, text, and audio. The book will definitely be your best companion on this great deep learning journey with Keras introducing you to the basics you need to know in order to take next steps and learn more advanced deep neural networks. 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 This book covers the basics behind Convolutional Neural Networks by introducing you to this complex world of deep learning and artificial neural networks in a simple and easy to understand way. It is perfect for any beginner out there looking forward to learning more about this machine learning field. This book is all about how to use convolutional neural networks for various image, object and other common classification problems in Python. Here, we also take a deeper look into various Keras layer used for building CNNs we take a look at different activation functions and much more, which will eventually lead you to creating highly accurate models able of performing great task results on various image classification, object classification and other problems. Therefore, at the end of the book, you will have a better insight into this world, thus you will be more than prepared to deal with more complex and challenging tasks on your own. 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! Get this book bundle NOW and SAVE money!

Apply computer vision and machine learning concepts in developing business and industrial applications ?using a practical, step-by-step approach. The book comprises four main sections starting with setting up your programming environment and configuring your computer with all the prerequisites to run the code examples. Section 1 covers the basics of image and video processing with code examples of how to manipulate and extract useful information from the images. You will mainly use OpenCV with Python to work with examples in this section. Section 2 describes machine learning and neural network concepts as applied to computer vision. You will learn different algorithms of the neural network, such as convolutional neural network (CNN), region-based convolutional neural network (R-CNN), and YOLO. In this section, you will also learn how to train, tune, and manage neural networks for computer vision. Section 3 provides step-by-step examples of developing business and industrial applications, such as facial recognition in video surveillance and surface defect detection in manufacturing. The final section is about training neural networks involving a large number of images on cloud infrastructure, such as Amazon AWS, Google Cloud Platform, and Microsoft Azure. It walks you through the process of training distributed neural networks for computer vision on GPU-based cloud infrastructure. By the time you finish reading Building Computer Vision Applications Using Artificial Neural Networks and working through the code examples, you will have developed some real-world use cases of computer vision with deep learning. What You Will Learn · Employ image processing, manipulation, and feature extraction techniques · Work with various deep learning algorithms for computer vision · Train, manage, and tune hyperparameters of CNNs and object detection models, such as R-CNN, SSD, and YOLO · Build neural network models using Keras and TensorFlow · Discover best practices when implementing computer vision applications in business and industry · Train

distributed models on GPU-based cloud infrastructure Who This Book Is For Data scientists, analysts, and machine learning and software engineering professionals with Python programming knowledge.

Dalam istilah praktis, deep learning merupakan bagian dari machine learning. Sebuah model machine learning perlu 'diberitahu' untuk bagaimana ia menciptakan prediksi akurat, dengan terus diberikan data. Sementara model deep learning dapat mempelajari metode komputasinya sendiri, dengan 'otaknya' sendiri, apabila diibaratkan. Sebuah model deep learning dirancang untuk terus menganalisis data dengan struktur logika yang mirip dengan bagaimana manusia mengambil keputusan. Untuk dapat mencapai kemampuan itu, deep learning menggunakan struktur algoritma berlapis yang disebut artificial neural network (ANN).

Deep Learning With Python Illustrated Guide For Beginners And Intermediates "Learn By Doing Approach" Includes Keras with Tensorflow Backend Deep learning originates from a broader family of machine learning, including supervised and unsupervised learning The python programming language is one of the most popular languages for programmers in the 21st century. This programming language has been a fundamental cornerstone in a lot of technology we use today. -Things we take for granted on a daily basis. Developing both desktop and web applications, and more interestingly enough has been used to accomplish many artificial intelligence feats. The world is constantly changing and evolving and it appears machine learning could be the way of the future! As we speak technology on a massive scale is being developed to replace mundane and repetitive tasks humans interface with everyday through the use of "deep learning". Ultimately, this means less human errors and a more efficient ways of operating for many corporations. You can potentially become the next big start-up! Develop software, web development tools and many more online ventures! Companies That Use Python Currently Google Facebook Dropbox Yahoo IBM Mozilla Quora Why Programmers Choose To Use Python? Readable & Maintainable Code Dynamic Type System Compatible with Major Platforms and Systems Robust Standard Library Simplifies Complex Software Development Test Driven Development Highly Sought After Skill-Set For Employers Invest in your knowledge base by buying your copy right now. The greatest investment you can make is an investment in yourself! Python will pave the road of technological advancements and very much so shape the world we live in. Become apart of this global progression towards advanced technology through the use of "deep learning". What You'll Learn What is deep learning Theory of Artificial Neural Network Artificial Neural Network with Keras Image Classification with Convolutional Neural Network Environment Setup Natural Language Processing Evaluating and Tuning the ANN Sequence Modeling And, much, much more! By the end of this book you will have grasped the fundamentals of python programming & deep learning! There is also illustrations to go along to help you understand and retain the info on a much more profound level. Picture diagrams have scientifically proven to accelerate the learning process by over 120%! Buy Your Copy Right Now!

One stop guide to implementing award-winning, and cutting-edge CNN architectures Key Features Fast-paced guide with use cases and real-world examples to get well versed with CNN techniques Implement CNN models on image classification, transfer learning, Object Detection, Instance Segmentation, GANs and more Implement powerful use-cases like image captioning, reinforcement learning for hard attention, and recurrent attention models Book Description Convolutional Neural Network (CNN) is revolutionizing several application domains such as visual recognition systems, self-driving cars, medical discoveries, innovative eCommerce and more.You will learn to create innovative solutions around image and video analytics to solve complex machine learning and computer vision related problems and implement real-life CNN models. This book starts with an overview of deep neural networkswith the example of image classification and walks you through building your first CNN for human face detector. We will learn to use concepts like transfer learning with CNN, and Auto-Encoders to build very powerful models, even when not much of supervised training data of labeled images is available. Later we build upon the learning achieved to build advanced vision related algorithms for object detection, instance segmentation, generative adversarial networks, image captioning, attention mechanisms for vision, and recurrent models for vision. By the end of this book, you should be ready to implement advanced, effective and efficient CNN models at your professional project or personal initiatives by working on complex image and video datasets. What you will learn From CNN basic building blocks to advanced concepts understand practical areas they can be applied to Build an image classifier CNN model to understand how different components interact with each other, and then learn how to optimize it Learn different algorithms that can be applied to Object Detection, and Instance Segmentation Learn advanced concepts like attention mechanisms for CNN to improve prediction accuracy Understand transfer learning and implement award-winning CNN architectures like AlexNet, VGG, GoogLeNet, ResNet and more Understand the working of generative adversarial networks and how it can create new, unseen images Who this book is for This book is for data scientists, machine learning and deep learning practitioners, Cognitive and Artificial Intelligence enthusiasts who want to move one step further in building Convolutional Neural Networks. Get hands-on experience with extreme datasets and different CNN architectures to build efficient and smart ConvNet models. Basic knowledge of deep learning concepts and Python programming language is expected.

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

regression, decision trees support vector machines, k-nearest neighbors, random forests Solving multi-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 Here Is A Preview Of What You'll Learn Here… What is machine learning Main uses and benefits of machine learning How to get started with TensorFlow, installing and loading data Data flow graphs and basic TensorFlow expressions Creating MNIST classifiers with one-hot transformation And much, much more... Data Analytics With Python Here Is A Preview Of What You'll Learn Here… What is Data Analytics? Difference between data science, big data and data analytics Installing python Python data structures Pandas series and data frames And much, much more... Natural Language Processing With Python Here Is A Preview Of What You'll Learn Here… Challenges of natural language processing How natural language processing works? Part of speech tagging N-grams Running natural language processing script And much, much more... DevOps Handbook Here Is A Preview Of What You'll Learn Here… Issues and mistakes plaguing software development What is software development life cycle? How software development life cycle works? The origins of devops Testing and building systems tools And much, much more... DevOps Adoption Here Is A Preview Of What You'll Learn Here… Devops definition Overcoming traditional dev and ops Devops and security integration Devops success factors Is devops right for you? And much, much more... Get this book bundle NOW and SAVE money!

Convolutional Neural Networks in Python (2nd Edition) Deep learning has been a great part of various scientific fields and since this is my third book regarding this topic, you already know the great significance of deep learning in comparison to traditional methods. At this point, you are also familiar with types of neural networks and their wide range of applications including image and speech recognition, natural language processing, video game development and other. On the other hand, this book is all about convolutional neural networks and how to use these neural networks in various tasks of automatic image and speech recognition in Python. You will also get a better insight into the architecture of convolutional layers as we are going deeper into this subject. Deep learning is pretty complex subject, but since you already have a fundamental knowledge of this topic, getting to know convolutional neural networks better is next logical step. What you will learn in Convolutional Neural Networks in Python: Architecture of convolutional neural networks Solving computer vision tasks using convolutional neural networks Python and computer vision Automatic image and speech recognition Theano and TenroeFlow image recognition How to use MNIST vision dataset What are commonly used convolutional filters Get this book today and learn more about Convolutional Neural Networks in Python!! PS: Get the Paperback and get this Ebook for FREE!!

Step-by-step tutorials on deep learning neural networks for computer vision in python with Keras.

??Buy the Paperback Version of this Book and get the Kindle Book version for FREE ?? Step into the fascinating world of data science.. You to participate in the revolution that brings artificial intelligence back to the heart of our society, thanks to data scientists. Data science consists in translating problems of any other nature into quantitative modeling problems, solved by processing algorithms. This book, designed for anyone wishing to learn Deep Learning. This book presents the main techniques: deep neural networks, able to model all kinds of data, convolution networks, able to classify images, segment them and discover the objects or people who are there, recurring networks, it contains sample code so that the reader can easily test and run the programs. On the program: Deep learning Neural Networks and Deep Learning Deep Learning Parameters and Hyper-parameters Deep Neural Networks Layers Deep Learning Activation Functions Convolutional Neural Network Python Data Structures Best practices in Python and Zen of Python Installing Python Python These are some of the topics covered in this book: fundamentals of deep learning fundamentals of probability fundamentals of statistics fundamentals of linear algebra introduction to machine learning and deep learning fundamentals of machine learning fundamentals of neural networks and deep learning deep learning parameters and hyper-parameters deep neural networks layers deep learning activation functions convolutional neural network Deep learning in practice (in jupyter notebooks) python data structures best practices in python and zen of python installing python The following are the objectives of this book: To help you understand deep learning in detail To help you know how to get started with deep learning in Python by setting up the coding environment. To help you transition from a deep learning Beginner to a Professional. To help you learn how to develop a complete and functional artificial neural network model in Python on your own. And more Get this book now to learn more about -- Deep learning in Python by setting up the coding environment.!

Convolutional Neural Networks in Python This book covers the basics behind Convolutional Neural Networks by introducing you to this complex world of deep learning and artificial neural networks in a simple and easy to understand way. It is perfect for any beginner out there looking forward to learning more about this machine learning field. This book is all about how to use convolutional neural networks for various image, object and other common classification problems in Python. Here, we also take a deeper look into various Keras layer used for building CNNs we take a look at different activation functions and much more, which will eventually lead you to creating highly accurate models able of performing great task results on various image classification, object classification and other problems. Therefore, at the end of the book, you will have a better insight into this world, thus you will be more than prepared to deal with more complex and challenging tasks on your own. 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! Get this book NOW and learn more about Convolutional Neural Networks in Python!

This book will help you develop a step-by-step understanding of deep learning completely from scratch!! This book covers: Introduction to machine learning and deep learning Math for deep learning explained to the layman How neural networks work: a general overview Activation functions in deep networks Loss functions Weight initialization and batch normalization Overfitting and underfitting and methods to overcome them in deep neural networks How to evaluate deep learning models Introduction to transfer learning with deep neural networks How to set up optimal hyper-parameters for deep models Convolutional neural networks Recurrent Neural Networks Adversarial neural networks Deep reinforcement learning Introduction to the Keras API for Deep Learning Introduction to Keras Callbacks How to build a simple deep neural network for image classification with Keras How to build a neural network for regression with Keras How to build a convolutional network for image classification with Keras

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

Build your Own Neural Network today. Through easy-to-follow instruction and examples, you'll learn the fundamentals of Deep learning and build your very own Neural Network in Python using TensorFlow, Keras, PyTorch, and Theano. While you have the option of spending thousands of dollars on big and boring textbooks, we recommend getting the same pieces of information for a fraction of the cost. So Get Your Copy Now!! Why this book? Book ObjectivesThe following are the objectives of this book: To help you understand deep learning in detail To help you know how to get started with deep learning in Python by setting up the coding environment. To help you transition from a deep learning Beginner to a Professional. To help you learn how to develop a complete and functional artificial neural network model in Python on your own. Who this Book is for? The author targets the following groups of people: Anybody who is a complete beginner to deep learning with Python. Anybody in need of advancing their Python for deep learning skills. Professors, lecturers or tutors who are looking to find better ways to explain Deep Learning to their students in the simplest and easiest way. Students and academicians, especially those focusing on python programming, neural networks, machine learning, and deep learning. What do you need for this Book? You are required to have installed the following on your computer: Python 3.X. TensorFlow . Keras . PyTorch The Author guides you on how to install the rest of the Python libraries that are required for deep learning.The author will guide you on how to install and configure the rest. What is inside the book? What is Deep Learning? An Overview of Artificial Neural Networks. Exploring the Libraries. Installation and Setup. TensorFlow Basics. Deep Learning with TensorFlow. Keras Basics. PyTorch Basics. Creating Convolutional Neural Networks with PyTorch. Creating Recurrent Neural Networks with PyTorch. From the back cover. Deep learning is part of machine learning methods based on learning data representations. This book written by Samuel Burns provides an excellent introduction to deep learning methods for computer vision applications. The author does not focus on too much math since this guide is designed for developers who are beginners in the field of deep learning. The book has been grouped into chapters, with each chapter exploring a different feature of the deep learning libraries that can be used in Python programming language. Each chapter features a unique Neural Network architecture including Convolutional Neural Networks. After reading this book, you will be able to build your own Neural Networks using Tenserflow, Keras, and PyTorch. Moreover, the author has provided Python codes, each code performing a different task. Corresponding explanations have also been provided alongside each piece of code to help the reader understand the meaning of the various lines of the code. In addition to this, screenshots showing the output that each code should return have been given. The author has used a simple language to make it easy even for beginners to understand.