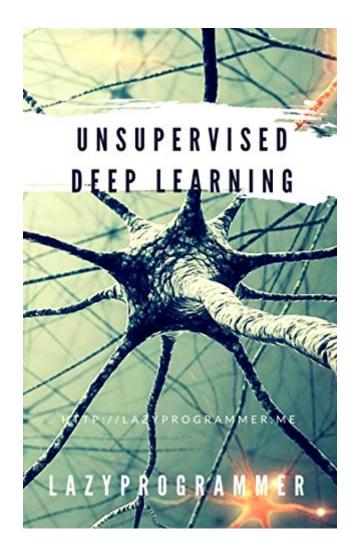
The book was found

Unsupervised Deep Learning In Python: Master Data Science And Machine Learning With Modern Neural Networks Written In Python And Theano (Machine Learning In Python)





Synopsis

Modern Deep LearningWhen we talk about modern deep learning, we are often not talking about vanilla neural networks - but newer developments, like using Autoencoders and Restricted Boltzmann Machines to do unsupervised pre-training. Deep neural networks suffer from the vanishing gradient problem, and for many years researchers couldnâ [™]t get around it - that is, until new unsupervised deep learning methods were invented. That is what this book aims to teach you. Aside from that, we are also going to look at Principal Components Analysis (PCA) and t-Distributed Stochastic Neighbor Embedding (t-SNE), which are not only related to deep learning mathematically, but often are part of a deep learning or machine learning pipeline. Mostly I am just ultra frustrated with the way PCA is usually taught! So lâ ™m using this platform to teach you Principal Components Analysis in a clear, logical, and intuitive way without you having to imagine rotating globes and spinning vectors and all that nonsense. One major component of unsupervised learning is visualization. We are going to do a lot of that in this book. PCA and t-SNE both help you visualize data from high dimensional spaces on a flat plane. Autoencoders and Restricted Boltzmann Machines help you visualize what each hidden node in a neural network has learned. One interesting feature researchers have discovered is that neural networks learn hierarchically. Take images of faces for example. The first layer of a neural network will learn some basic strokes. The next layer will combine the strokes into combinations of strokes. The next layer might form the pieces of a face, like the eyes, nose, ears, and mouth. It truly is amazing!Perhaps this might provide insight into how our own brains take simple electrical signals and combine them to perform complex reactions. We will also see in this book how you can â œtrickâ • a neural network after training it! You may think it has learned to recognize all the images in your dataset, but add some intelligently designed noise, and the neural network will think itâ [™]s seeing something else, even when the picture looks exactly the same to you!So if the machines ever end up taking over the world, youâ [™]II at least have some tools to combat them. Finally, in this book I will show you exactly how to train a deep neural network so that you avoid the vanishing gradient problem - a method called â œgreedy layer-wise pretrainingâ •.â œHold up... whatâ ™s deep learning and all this other crazy stuff youâ [™]re talking about?â •lf you are completely new to deep learning, you might want to check out my earlier books and courses on the subject: Deep Learning in Python https://www..com/dp/B01CVJ19E8Deep Learning in Python Prerequisities https://www..com/dp/B01D7GDRQ2Much like how IBMâ ™s Deep Blue beat world champion chess player Garry Kasparov in 1996, Googleâ ™s AlphaGo recently made headlines when it beat world champion Lee Sedol in March 2016. What was amazing about this win was that experts in the field

didnâ [™]t think it would happen for another 10 years. The search space of Go is much larger than that of chess, meaning that existing techniques for playing games with artificial intelligence were infeasible. Deep learning was the technique that enabled AlphaGo to correctly predict the outcome of its moves and defeat the world champion.Deep learning progress has accelerated in recent years due to more processing power (see: Tensor Processing Unit or TPU), larger datasets, and new algorithms like the ones discussed in this book.

Book Information

File Size: 300 KB Print Length: 62 pages Simultaneous Device Usage: Unlimited Publication Date: June 30, 2016 Sold by: Â Digital Services LLC Language: English ASIN: B01HUA6BOG Text-to-Speech: Enabled X-Ray: Not Enabled Word Wise: Not Enabled Lending: Not Enabled Enhanced Typesetting: Enabled Best Sellers Rank: #104,148 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #16 in Books > Computers & Technology > Computer Science > AI & Machine Learning > Neural Networks #62 in Kindle Store > Kindle Short Reads > 90 minutes (44-64 pages) > Computers & Technology #99 in Books > Computers & Technology > Computer Science > AI & Machine Learning > Intelligence & Semantics

Customer Reviews

Tough read. Hopefully a second read will help.

Download to continue reading...

Unsupervised Deep Learning in Python: Master Data Science and Machine Learning with Modern Neural Networks written in Python and Theano (Machine Learning in Python) Deep Learning in Python: Master Data Science and Machine Learning with Modern Neural Networks written in Python, Theano, and TensorFlow (Machine Learning in Python) Convolutional Neural Networks in Python: Master Data Science and Machine Learning with Modern Deep Learning in Python,

Theano, and TensorFlow (Machine Learning in Python) Deep Learning: Natural Language Processing in Python with Recursive Neural Networks: Recursive Neural (Tensor) Networks in Theano (Deep Learning and Natural Language Processing Book 3) Deep Learning: Recurrent Neural Networks in Python: LSTM, GRU, and more RNN machine learning architectures in Python and Theano (Machine Learning in Python) Unsupervised Machine Learning in Python: Master Data Science and Machine Learning with Cluster Analysis, Gaussian Mixture Models, and Principal Components Analysis Deep Learning in Python Prerequisites: Master Data Science and Machine Learning with Linear Regression and Logistic Regression in Python (Machine Learning in Python) Deep Learning Step by Step with Python: A Very Gentle Introduction to Deep Neural Networks for Practical Data Science Deep Learning: Natural Language Processing in Python with Word2Vec: Word2Vec and Word Embeddings in Python and Theano (Deep Learning and Natural Language Processing Book 1) Deep Learning: Natural Language Processing in Python with GLoVe: From Word2Vec to GLoVe in Python and Theano (Deep Learning and Natural Language Processing) Deep Learning for Business with R: A Very Gentle Introduction to Business Analytics Using Deep Neural Networks Python: Python Programming Course: Learn the Crash Course to Learning the Basics of Python (Python Programming, Python Programming Course, Python Beginners Course) Neural Smithing: Supervised Learning in Feedforward Artificial Neural Networks (MIT Press) A collection of Advanced Data Science and Machine Learning Interview Questions Solved in Python and Spark (II): Hands-on Big Data and Machine ... Programming Interview Questions) (Volume 7) Data Analytics: What Every Business Must Know About Big Data And Data Science (Data Analytics) for Business, Predictive Analysis, Big Data) Artificial Intelligence for Humans, Volume 3: Deep Learning and Neural Networks Deep Learning Neural Networks: Design and Case Studies Principles of Neural Science, Fifth Edition (Principles of Neural Science (Kandel)) Data Analytics: Practical Data Analysis and Statistical Guide to Transform and Evolve Any Business. Leveraging the Power of Data Analytics, Data ... (Hacking Freedom and Data Driven) (Volume 2) Analytics: Data Science, Data Analysis and Predictive Analytics for Business (Algorithms, Business) Intelligence, Statistical Analysis, Decision Analysis, Business Analytics, Data Mining, Big Data) <u>Dmca</u>