

MB901 DEEP LEARNING FOR TEXT MINING

Unit 1

Introduction to deep learning - Explain the major trends driving the rise of deep learning, - Understand where and how it is applied today - Biological neural networks - Artificial Neural networks overview - History of neural nets

Unit 2

Neural Networks Basics -What is a neural network- Learn to set up a neural network - Basic Terminology and notations- Using neural nets to recognize handwritten digits - MNIST dataset - Learning with gradient descent

Unit 3

Shallow neural networks - Forward Propagation - Backward Propagation - How backward propagation works - Building neural network in python-Tools - Tensor flow brief introduction - Installing and running a classification problem using neural nets in python

Unit 4

Deep Neural Networks - Introduction - Advantages of Neural nets- Where will neural nets not work -ges -Hebbian learning - Apply it to a computer Vision problem

Unit 5

Recurrent Neural Networks - Introduction to RNNs - What is Neural Memory- Understanding the Backpropagation Through Time (BPTT) algorithm and the vanishing gradient problem - Implementing a GRU/LSTM RNN

References:

Books:

Neural Networks for Complete Beginners: Introduction for Neural Network Programming Kindle Edition

Fundamentals of Neural Networks: Architectures, Algorithms and Applications, 1e Paperback - 2004 by FAUSETT (Author)

Make Your Own Neural Network: An In-depth Visual Introduction For Beginners Kindle Edition

Neural Networks for Beginners: An Easy-to-Use Manual for Understanding Artificial Neural Network Programming Kindle Edition by Bob Story (Author)

Neural Networks and Deep Learning Explained: Understanding neural networks and their biological effects Kindle Edition

Online Learning

<http://neuralnetworksanddeeplearning.com/chap1.html>

<https://www.coursera.org/learn/neural-networks-deep-learning>

<https://deeplearning4j.org/lstm.html>

<https://www.analyticsvidhya.com/blog/2016/12/21-deep-learning-videos-tutorials-courses-on-youtube-from-2016/>

<http://www.wildml.com/2015/09/recurrent-neural-networks-tutorial-part-1-introduction-to-rnns/>

<https://iamtrask.github.io/2015/11/15/anyone-can-code-lstm/>

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