NPTEL Video Course - Computer Science and Engineering - NOC:Applied Natural Language Processing

Subject Co-ordinator - Prof. Ramaseshan R

Co-ordinating Institute - IIT - Madras

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 30 - Machine learning, perceptron, linearly separable
Lecture 31 - Linear Models for Claassification
Lecture 32 - Biological Neural Network
Lecture 33 - Perceptron
Lecture 34 - Perceptron Learning
Lecture 35 - Logical XOR
Lecture 36 - Activation Functions
Lecture 37 - Gradient Descent
Lecture 38 - Feedforward and Backpropagation Neural Network
Lecture 39 - Why Word2Vec?
Lecture 40 - What are CBOW and Skip-Gram Models?
Lecture 41 - One word learning architecture
Lecture 42 - Forward pass for Word2Vec
Lecture 43 - Matrix Operations Explained
Lecture 44 - CBOW and Skip Gram Models
Lecture 45 - Building Skip-gram model using Python
Lecture 46 - Reduction of complexity - sub-sampling, negative sampling
Lecture 47 - Binay tree, Hierarchical softmax
Lecture 48 - Mapping the output layer to Softmax
Lecture 49 - Updating the weights using hierarchical softmax
Lecture 50 - Discussion on the results obtained from word2vec
Lecture 51 - Recap and Introduction
Lecture 52 - ANN as a LM and its limitations
Lecture 53 - Sequence Learning and its applications
Lecture 54 - Introuduction to Recurrent Neural Network
Lecture 55 - Unrolled RNN
Lecture 56 - RNN - Based Language Model
Lecture 57 - BPTT - Forward Pass
Lecture 58 - BPTT - Derivatives for W,V and U
Lecture 59 - BPTT - Exploding and vanishing gradient
Lecture 60 - LSTM
Lecture 61 - Truncated BPTT
Lecture 62 - GRU
Lecture 63 - Introduction and Historical Approaches to Machine Translation
Lecture 64 - What is SMT?
Lecture 65 - Noisy Channel Model, Bayes Rule, Language Model
Lecture 66 - Translation Model, Alignment Variables
Lecture 67 - Alignments again!
Lecture 68 - IBM Model 1

Lecture 69 - IBM Model 2
Lecture 70 - Introduction to Phrase-based translation
Lecture 71 - Symmetrization of alignments
Lecture 72 - Extraction of Phrases
Lecture 73 - Learning/estimating the phrase probabilities using another Symmetrization example
Lecture 74 - Introduction to evaluation of Machine Translation
Lecture 75 - BLEU - A short Discussion of the seminal paper
Lecture 76 - BLEU Demo using NLTK and other Metrics
Lecture 77 - Encoder-Decoder model for Neural Machine Translation
Lecture 78 - RNN Based Machine Translation
Lecture 79 - Recap and Connecting Bloom Taxonomy with Machine Learning
Lecture 80 - Introduction to Attention based Translation
Lecture 81 - Research Paper discussion on Neural machine translation by jointly learning to align and transla
Lecture 82 - Typical NMT architecture architecture and models for multi-language translation
Lecture 83 - Beam Search, Stochatic Gradient Descend, Mini Batch, Batch
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Lecture 85 - Introduction to Conversation Modeling
Lecture 86 - A few examples in Conversation Modeling
Lecture 87 - Some ideas to Implement IR-based Conversation Modeling
Lecture 88 - Discussion of some ideas in Question Answering
Lecture 89 - Hyperspace Analogue to Language - HAL
Lecture 90 - Correlated Occurence Analogue to Lexical Semantic - COALS
Lecture 91 - Global Vectors - Glove
Lecture 92 - Evaluation of Word vectors