NPTEL Video Course - Computer Science and Engineering - NOC:Deep Learning - Part 2

Subject Co-ordinator - Prof.Mitesh Khapra

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Recap of Probability Theory
Lecture 2 - Why are we interested in Joint Distributions
Lecture 3 - How do we represent a joint distribution
Lecture 4 - Can we represent the joint distribution more compactly
Lecture 5 - Can we use a graph to represent a joint distribution
Lecture 6 - Different types of reasoning encoded in a Bayesian Network
Lecture 7 - Independencies encoded by a Bayesian Network (Case 1
Lecture 8 - Independencies encoded by a Bayesian Network (Case 2
Lecture 9 - Independencies encoded by a Bayesian Network (Case 3
Lecture 10 - Bayesian Networks
Lecture 11 - I-Maps
Lecture 12 - Markov Networks
Lecture 13 - Factors in Markov Network
Lecture 14 - Local Independencies in a Markov Network
Lecture 15 - Joint Distributions
Lecture 16 - The concept of a latent variable
Lecture 17 - Restricted Boltzmann Machines
Lecture 18 - RBMs as Stochastic Neural Networks
Lecture 19 - Unsupervised Learning with RBMs
Lecture 20 - Computing the gradient of the log likelihood
Lecture 21 - Motivation for Sampling
Lecture 22 - Motivation for Sampling - Part 2
Lecture 23 - Markov Chains
Lecture 24 - Why de we care about Markov Chains ?
Lecture 25 - Setting up a Markov Chain for RBMs
Lecture 26 - Training RBMs Using Gibbs Sampling
Lecture 27 - Training RBMS Using Contrastive Divergence
Lecture 28 - Revisiting Autoencoders
Lecture 29 - Variational Autoencoders

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Lecture 30 - Variational Autoencoders
Lecture 31 - Neural Autoregressive Density Estimator
Lecture 32 - Masked Autoencoder Density Estimator (MADE)
Lecture 33 - Generative Adversarial Networks - The Intuition
Lecture 34 - Generative Adversarial Networks - Architecture
Lecture 35 - Generative Adversarial Networks - The Math Behind it
Lecture 36 - Generative Adversarial Networks - Some Cool Stuff and Applications
Lecture 37 - Bringing it all together (the deep generative summary)
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