NPTEL Video Course - Electrical Engineering - NOC:Machine Learning and Deep Learning - Fundamentals and Appli

Subject Co-ordinator - Prof. M.K. Bhuyan

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction to Machine Learning
Lecture 2 - Performance Measures of Classification
Lecture 3 - Bias-Variance Tradeoff
Lecture 4 - Regression
Lecture 5 - Bayesian Decision Theory - 1
Lecture 6 - Bayesian Decision Theory - 2
Lecture 7 - Bayes Decision Theory - Binary Features
Lecture 8 - Bayesian Decision Theory - 3
Lecture 9 - Bayesian Decision Theory - 4
Lecture 10 - Bayesian Belief Networks
Lecture 11 - Parameter Estimation and Maximum Likelihood Estimation
Lecture 12 - Parameter Estimation and Bayesian Estimation
Lecture 13 - Concept of non-parametric techniques
Lecture 14 - Density Estimation by Parzen Window
Lecture 15 - Parzen Window and K nearest neighbor algorithm
Lecture 16 - Linear Discriminant Functions and Perceptron Criteria - Part I
Lecture 17 - Linear Discriminant Functions and Perceptron Criteria - Part II
Lecture 18 - Linear Discriminant Functions and Perceptron Criteria - Part III
Lecture 19 - Support Vector Machine - Part I
Lecture 20 - Support Vector Machine - Part II
Lecture 21 - Logistic Regression
Lecture 22 - Decision Tree
Lecture 23 - Hidden Markov Model (HMM)
Lecture 24 - Ensemble Classifiers - Part I
Lecture 25 - Ensemble Classifiers - Part II
Lecture 26 - Dimensionality Problem and Principal Component Analysis
Lecture 27 - Principal Component Analysis
Lecture 28 - Linear Discriminant Analysis (LDA) - Part I
Lecture 29 - Linear Discriminant Analysis (LDA) - Part II

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Lecture 30 - Gaussian Mixture Model and EM Algorithm
Lecture 31 - K-means clustering.
Lecture 32 - Fuzzy K-means clustering
Lecture 33 - Hierarchical Agglomerative Clustering and Mean-shift Clustering
Lecture 34 - Artificial Neural Networks for Pattern Classification - Part 1
Lecture 35 - Artificial Neural Networks for Pattern Classification - Part 2
Lecture 36 - Artificial Neural Networks for Pattern Classification - Part 3
Lecture 37 - Introduction to Deep Learning and Convolutional Neural Network (CNN)
Lecture 38 - Vanishing and Exploding Gradients in Deep Neural Networks
Lecture 39 - CNN Architectures - LeNet-5 and AlexNet
Lecture 40 - CNN Architectures - VGG 16, GoogLeNet and ResNet
Lecture 41 - Generative Adversarial Networks (GAN) - Fundamentals and Applications
Lecture 42 - U-Net: Convolutional Networks for Image Segmentation
Lecture 43 - Introduction to Autoencoder and Recurrent Neural Networks (RNN)
Lecture 44 - Programming Concepts - 1
Lecture 45 - Programming Concepts - 2
Lecture 46 - Problem Solving Session - 1
Lecture 47 - Problem Solving Session - 2
Lecture 48 - Problem Solving Session - 3
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