NPTEL Video Course - Computer Science and Engineering - NOC:Introduction to Machine Learning (Sponsored by Ar

Subject Co-ordinator - Dr. Balaraman Ravindran

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - A brief introduction to machine learning
Lecture 2 - Supervised Learning
Lecture 3 - Unsupervised Learning
Lecture 4 - Reinforcement Learning
Lecture 5 - Probability Basics - 1
Lecture 6 - Probability Basics - 2
Lecture 7 - Linear Algebra - 1
Lecture 8 - Linear Algebra - 2
Lecture 9 - Statistical Decision Theory - Regression
Lecture 10 - Statistical Decision Theory - Classification
Lecture 11 - Bias-Variance
Lecture 12 - Linear Regression
Lecture 13 - Multivariate Regression
Lecture 14 - Subset Selection 1
Lecture 15 - Subset Selection 2
Lecture 16 - Shrinkage Methods
Lecture 17 - Principal Components Regression
Lecture 18 - Partial Least Squares
Lecture 19 - Linear Classification
Lecture 20 - Logistic Regression
Lecture 21 - Linear Discriminant Analysis 1
Lecture 22 - Linear Discriminant Analysis 2
Lecture 23 - Linear Discriminant Analysis 3
Lecture 24 - Optimization
Lecture 25 - Perceptron Learning
Lecture 26 - SVM - Formulation
Lecture 27 - SVM - Interpretation & Analysis
Lecture 28 - SVMs for Linearly Non Separable Data
Lecture 29 - SVM Kernels

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Lecture 30 - SVM - Hinge Loss Formulation
Lecture 31 - Weka Tutorial
Lecture 32 - Early Models
Lecture 33 - Backpropogation - I
Lecture 34 - Backpropogation - II
Lecture 35 - Initialization, Training and Validation
Lecture 36 - Maximum Likelihood Estimate
Lecture 37 - Priors and MAP Estimate
Lecture 38 - Bayesian Parameter Estimation
Lecture 39 - Introduction
Lecture 40 - Regression Trees
Lecture 41 - Stopping Criteria and Pruning
Lecture 42 - Loss Functions for Classification
Lecture 43 - Categorical Attributes
Lecture 44 - Multiway Splits
Lecture 45 - Missing Values, Imputation and Surrogate Splits
Lecture 46 - Instability, Smoothness and Repeated Subtrees
Lecture 47 - Tutorial
Lecture 48 - Evaluation Measures I
Lecture 49 - Bootstrapping and Cross Validation
Lecture 50 - 2 Class Evaluation Measures
Lecture 51 - The ROC Curve
Lecture 52 - Minimum Description Length and Exploratory Analysis
Lecture 53 - Introduction to Hypothesis Testing
Lecture 54 - Basic Concepts
Lecture 55 - Sampling Distributions and the Z Test
Lecture 56 - Student's t-test
Lecture 57 - The Two Sample and Paired Sample t-tests
Lecture 58 - Confidence Intervals
Lecture 59 - Bagging, Committee Machines and Stacking
Lecture 60 - Boosting
Lecture 61 - Gradient Boosting
Lecture 62 - Random Forest
Lecture 63 - Naive Bayes
Lecture 64 - Bayesian Networks
Lecture 65 - Undirected Graphical Models - Introduction
Lecture 66 - Undirected Graphical Models - Potential Functions
Lecture 67 - Hidden Markov Models
Lecture 68 - Variable Elimination
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Lecture 69 - Belief Propagation
Lecture 70 - Partitional Clustering
Lecture 71 - Hierarchical Clustering
Lecture 72 - Threshold Graphs
Lecture 73 - The BIRCH Algorithm
Lecture 74 - The CURE Algorithm
Lecture 75 - Density Based Clustering
Lecture 76 - Gaussian Mixture Models
Lecture 77 - Expectation Maximization
Lecture 78 - Expectation Maximization (Continued...)
Lecture 79 - Spectral Clustering
Lecture 80 - Learning Theory
Lecture 81 - Frequent Itemset Mining
Lecture 82 - The Apriori Property
Lecture 83 - Introduction to Reinforcement Learning
Lecture 84 - RL Framework and TD Learning
Lecture 85 - Solution Methods and Applications
Lecture 86 - Multi-class Classification
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