NPTEL Video Course - Computer Science and Engineering - NOC:Introduction to Machine Learning (Tamil)

Subject Co-ordinator - Prof. Arun Rajkumar

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Paradigms of Machine Learning
Lecture 2 - Few more examples
Lecture 3 - Types of Learning
Lecture 4 - Types of supervised learning
Lecture 5 - Mathematical tools
Lecture 6 - Three Fundamental spaces
Lecture 7 - Conditional Probability
Lecture 8 - Bayes Theorem
Lecture 9 - Continuous Probability
Lecture 10 - Introduction to vectors
Lecture 11 - Span of vectors
Lecture 12 - Linear Independence
Lecture 13 - Basis of vector space
Lecture 14 - Orthogonality and Projection
Lecture 15 - Introduction to Regression
Lecture 16 - Linear regression
Lecture 17 - Geometrical Interpretation
Lecture 18 - Visual Guide to Orthogonal Projection
Lecture 19 - Iterative solution: Gradient descent
Lecture 20 - Gradient Descent
Lecture 21 - Choosing Step size
Lecture 22 - Taylor Series
Lecture 23 - Stochastic Gradient Descent and basis functions
Lecture 24 - Regularization Techniques
Lecture 25 - Binary Classification
Lecture 26 - K-Nearest Neighbour Classification
Lecture 27 - Distance metric and Cross-Validation
Lecture 28 - Computational efficiency of KNN
Lecture 29 - Introduction to Decision Trees

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Lecture 30 - Level splitting
Lecture 31 - Measure of Impurity
Lecture 32 - Entropy and Information Gain
Lecture 33 - Generative vs Discriminative models
Lecture 34 - Naive Bayes classifier
Lecture 35 - Conditional Independence
Lecture 36 - Classifying the test point and summary
Lecture 37 - Discriminative models
Lecture 38 - Logistic Regression
Lecture 39 - Summary and big picture
Lecture 40 - Maximum likelihood estimation
Lecture 41 - Linear separability
Lecture 42 - Perceptron and its learning algorithm
Lecture 43 - Perceptron : A thing of past
Lecture 44 - Support Vector Machine
Lecture 45 - Optimizing weights
Lecture 46 - Handling Outliers
Lecture 47 - Dual Formulation
Lecture 48 - Kernel formulation
Lecture 49 - Introduction to Ensemble methods
Lecture 50 - Bagging
Lecture 51 - Bootstrapping
Lecture 52 - Limitations of bagging
Lecture 53 - Introduction to boosting
Lecture 54 - Ada boost
Lecture 55 - Unsupervised learning
Lecture 56 - K-means Clustering
Lecture 57 - LLyod's Algorithms
Lecture 58 - Convergence and Initialization
Lecture 59 - Representation Learning
Lecture 60 - Orthogonal Projection
Lecture 61 - Covariance Matrix and Eigen direction
Lecture 62 - PCA and mean centering
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