

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Computer Science and Engineering - Pattern Recognition

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Co-ordinating Institute - IIT - Madras | Indian Statistical Institute

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

- Lecture 1 - Principles of Pattern Recognition I (Introduction and Uses)
- Lecture 2 - Principles of Pattern Recognition II (Mathematics)
- Lecture 3 - Principles of Pattern Recognition III (Classification and Bayes Decision Rule)
- Lecture 4 - Clustering vs. Classification
- Lecture 5 - Relevant Basics of Linear Algebra, Vector Spaces
- Lecture 6 - Eigen Value and Eigen Vectors
- Lecture 7 - Vector Spaces
- Lecture 8 - Rank of Matrix and SVD
- Lecture 9 - Types of Errors
- Lecture 10 - Examples of Bayes Decision Rule
- Lecture 11 - Normal Distribution and Parameter Estimation
- Lecture 12 - Training Set, Test Set
- Lecture 13 - Standardization, Normalization, Clustering and Metric Space
- Lecture 14 - Normal Distribution and Decision Boundaries I
- Lecture 15 - Normal Distribution and Decision Boundaries II
- Lecture 16 - Bayes Theorem
- Lecture 17 - Linear Discriminant Function and Perceptron
- Lecture 18 - Perceptron Learning and Decision Boundaries
- Lecture 19 - Linear and Non-Linear Decision Boundaries
- Lecture 20 - K-NN Classifier
- Lecture 21 - Principal Component Analysis (PCA)
- Lecture 22 - Fisher's LDA
- Lecture 23 - Gaussian Mixture Model (GMM)
- Lecture 24 - Assignments
- Lecture 25 - Basics of Clustering, Similarity/Dissimilarity Measures, Clustering Criteria.
- Lecture 26 - K-Means Algorithm and Hierarchical Clustering
- Lecture 27 - K-Medoids and DBSCAN
- Lecture 28 - Feature Selection
- Lecture 29 - Feature Selection

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- Lecture 30 - Feature Selection
- Lecture 31 - Cauchy Schwartz Inequality
- Lecture 32 - Feature Selection Criteria Function
- Lecture 33 - Feature Selection Criteria Function
- Lecture 34 - Principal Components
- Lecture 35 - Comparison Between Performance of Classifiers
- Lecture 36 - Basics of Statistics, Covariance, and their Properties
- Lecture 37 - Data Condensation, Feature Clustering, Data Visualization
- Lecture 38 - Probability Density Estimation
- Lecture 39 - Visualization and Aggregation
- Lecture 40 - Support Vector Machine (SVM)
- Lecture 41 - FCM and Soft-Computing Techniques
- Lecture 42 - Examples of Uses or Application of Pattern Recognition; And When to do clustering
- Lecture 43 - Examples of Real-Life Dataset