

M.Tech(IT) : Group D
Paper Code: MT24D
Paper Title: Document Analysis And Pattern Recognition

SYLLABUS

1. Introduction

Introduction to Pattern Recognition, Definitions, Need of pattern Reorganization, Pattern Recognition Systems, Applications of Pattern Recognition, Data Cycles , The Design Cycle with Evaluation and Computational complexity, Machine Perceptions.

2. Decision Making Techniques

Bayesian Decision Theory, Statistical decision making, Baye's theorem, Non parametric decision making, histogram , kernel and window estimators , nearest neighbor classification techniques, The K-Nearest Neighbor Rule ,Minimum-Error-Rate Classification, Classifiers, Discriminate Functions and Decision Surfaces , DECISION BOUNDRIES The Normal Density. continuous densites ,estimation of error rate,

3. Estimation Techniques

Parameter Estimation Techniques, Maximum - Likelihood Estimation, Bayesian Estimation, Bayesian Parameter Estimation, General Bayesian Learning, Problems of Dimensionality, Component Analysis and Discriminants Unsupervised Learning, Unsupervised maximum likelihood Estimate, Unsupervised Bayesian Learning

4. Clustering Techniques

Introduction to Clustering, use of cluster Analysis , Types of Clustering, Hierarchical Clustering, Nonhierarchical Clustering, Gravitational clustering, Partitional Clustering .

5. Neural Network And Image Analysis

Basics of Artificial Analysis, Nets with and without Hidden layers, propagation Algorithms, Hopfield nets. Scene segmentation and labeling projection, regions, Texture, Color.

Reference:

1.EARL GOSE , RICHARD JOHNSONBAUGH , STEVE JOST “Pattern recognition and Image analysis”, PHI