

VIDYA JYOTHI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

IV Yr I SEM

FUNDAMENTALS OF MACHINE LEARNING LAB

Week 1:

Implement and demonstrate the FIND-S algorithm for finding the most specific hypothesis based on a given set of training data samples. Read the training data from a .CSVfile.

Week 2:

For a given set of training data examples stored in a .CSV file, implement and demonstrate the Candidate-Elimination algorithm to output a description of the set of all hypotheses consistent with the training examples.

Week 3:

- a. Program to calculate the entropy and the information gain
- b. Write a program to demonstrate the working of the decision tree based ID3 algorithm. Use an appropriate data set for building the decision tree and apply this knowledge to classify a new sample.

Week 4:

- a. Program to implement perceptron.
- b. Build an Artificial Neural Network by implementing the Back propagation and test the same using appropriate data sets.

Week 5:

Write a program to implement SVM algorithm to classify the iris dataset. Print both correct and wrong predictions.

Week 6:

Implement the non-parametric Locally Weighted Regression algorithm in order to fit data points. Select appropriate dataset for your experiment and draw graphs.

Week 7:

Write a program to construct a Bayesian network considering medical data. Use this model to demonstrate the diagnosis of heart patients using standard Heart Disease DataSet.

Week 8:

Apply EM algorithm to cluster a set of data stored in a.CSV file. Use the same dataset for clustering using k-Means algorithm. Compare the results of these two algorithms and comment on the quality of clustering.

Week 9:

Write a program to implement k-Nearest Neighbors algorithm to classify the iris dataset.
Print both correct and wrong predictions.