School of Computer Science and Engineering, VIT Chennai.

CSE2039 Fundamentals of Artificial Intelligence

Lab-4 K-Nearest Neighbour Algorithm

Faculty : Dr. R. Jothi

**Due Date : 22/05/2023 (B1 slot)**

**Due Date : 24/05/2023 (B2 slot)**

Submit your python code (Jupyter notebook): with output for all the questions.

Q1. Implement K-NN classification algorithm with Euclidean and Manhattan Distance metrics. The program should be generic, should work for any k values on Iris dataset.

* Keep 80% of samples for training and rest for testing
* Show the results using both distance metrics.
* Compare your results with Scikit/SKlearn Library function.

Q2. Modify your K-NN implementation for regression problem.

* Make an auxiliary dataset from Iris.csv file consisting of only sepal length and sepal width. Assume you want to predict sepal width based on sepal length values.
* Keep 80% of samples for training and rest for testing
* Show the results using Euclidean metric and different K-values.
* Use appropriate Scikit/SKlearn Library function to apply K-NN regression on the given dataset and compare the results with your implementation.