DA311 Machine Learning Lab

Assignment 7

Date: September 26$^{\text{th}}$, 2023

Task - A

1. Given a dataset ParzenWindow1data.csv, estimate and visualize the Parzen Window density function using the Gaussian pdf for each of the variances σ^2: [0.1, 0.5, 1, 2, 4].

2. Given a dataset ParzenWindow2data.csv (where, first 300 rows belong to class-1 and remaining 700 rows belong to class-2), classify each of these test points ([4, 4], [6, 6], [9, 9], [11, 11], [8, 8]) by the Parzen Window technique using the two dimensional Gaussian pdf with 2×2 identity covariance matrices. Use priors as 0.3 for Class 1 and 0.7 for Class 2 while formulating the Bayes rule.

Task - B

Given two 5-Dimensional sequential data: DTWts1data.csv and DTWts2data.csv, perform the matching using the DTW technique. Compute the DTW distance and display the warping path on the cost matrix.