CS 6301 - Machine Learning Lab - Week 11

Date: 13.10.2023

TITLE

IMPLEMENTATION OF LINEAR DISCRIMINANT ANALYSIS ALGORITHM (LDA)

TASK

1. A factory manufactures very expensive and high quality chip rings which has attributes namely curvature and diameter. Results of Quality Control Experts are summarized in the following table:

Curvature	Diameter	Result of Quality Control
2.95	6.63	Passed
2.53	7.79	Passed
3.57	5.65	Passed
3.16	5.47	Passed
2.58	4.46	Not Passed
2.16	6.22	Not Passed
3.27	3.52	Not Passed

   Implement LDA with Python to facilitate automatic quality control and test for a new chip ring whose curvature is 2.81 and diameter is 5.46. Verify your answers by manually solving LDA on the given data and the test data.

2. Implement LDA using Python on the Iris dataset which is a three class dataset and visualize the result. Also, use the model to predict for the test data [5, 2, 1, and 0.4].