

CS5691: Pattern Recognition and Machine Learning

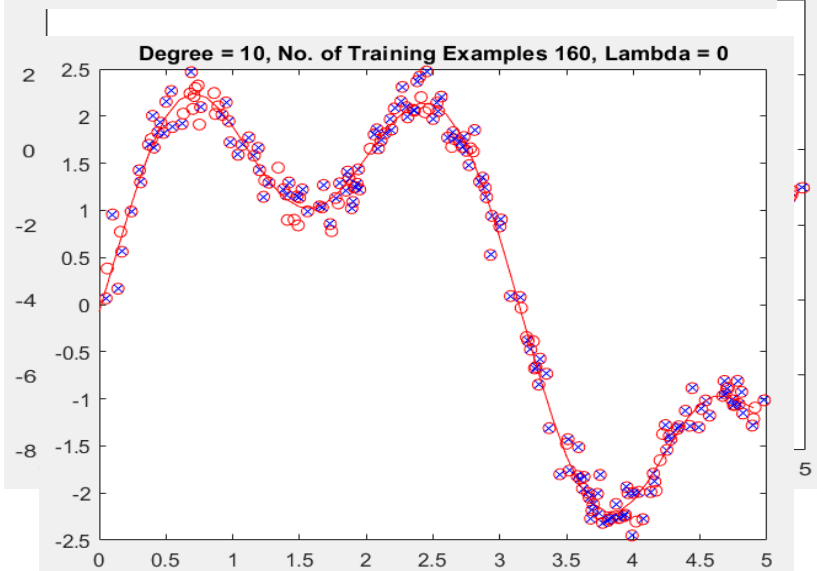
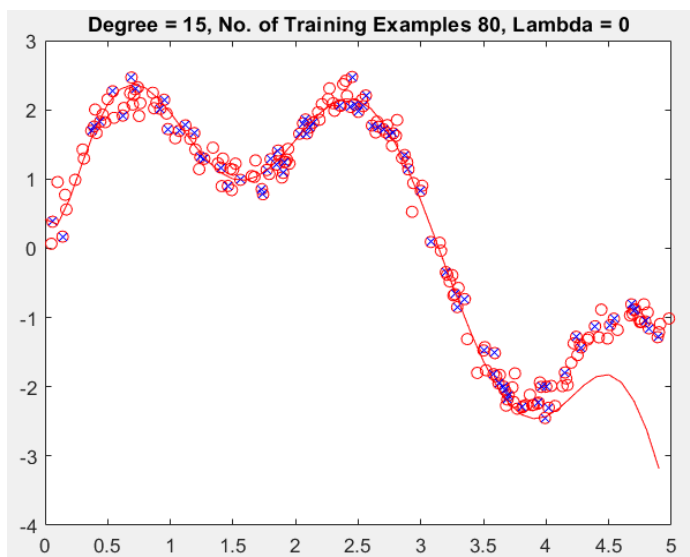
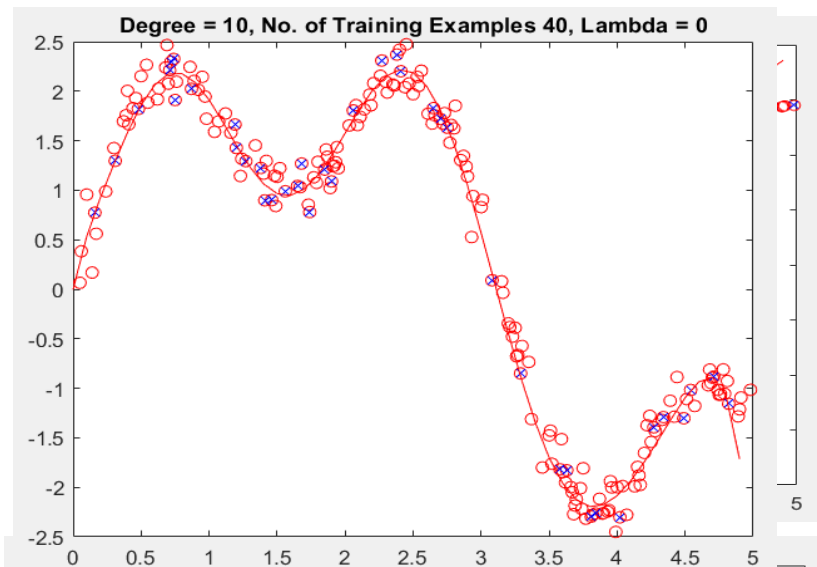
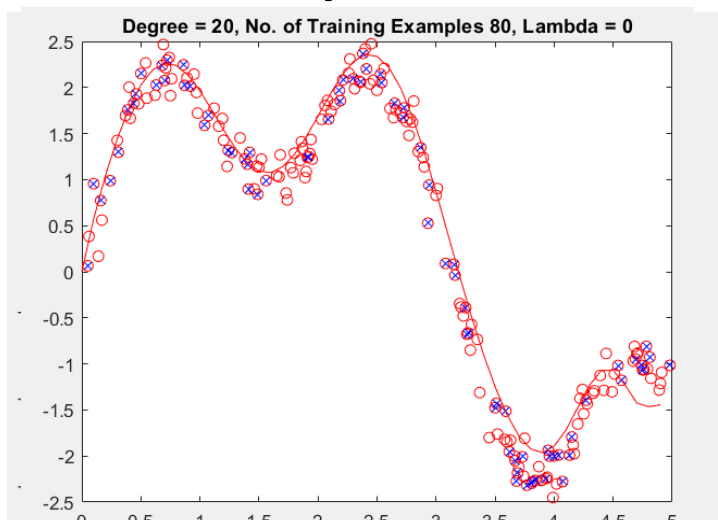
Assignment # 2

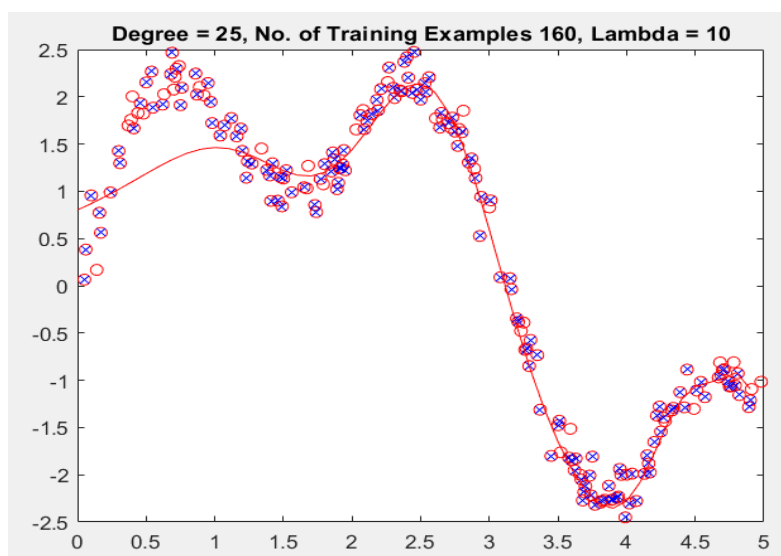
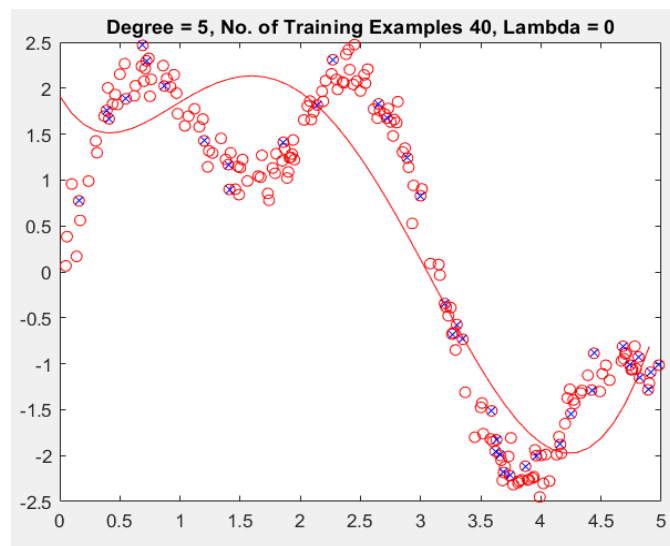
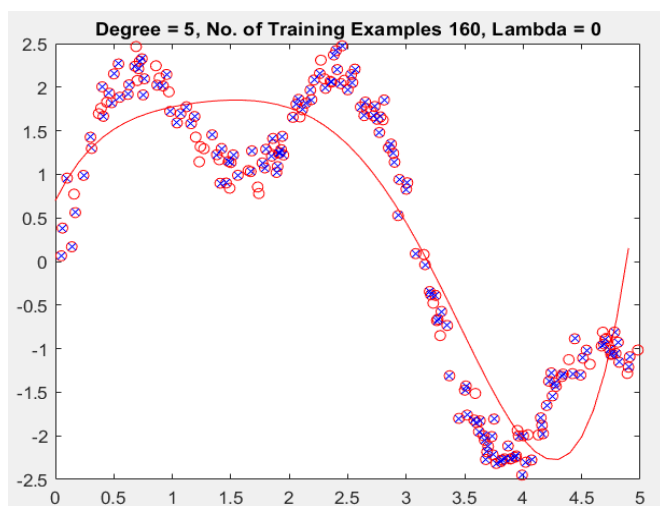
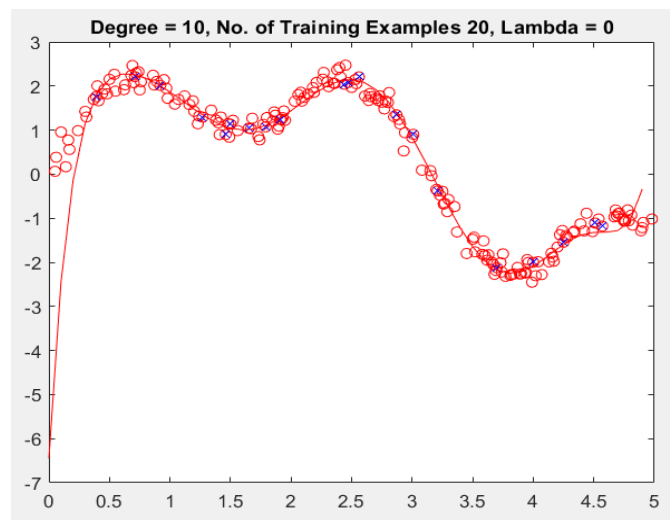
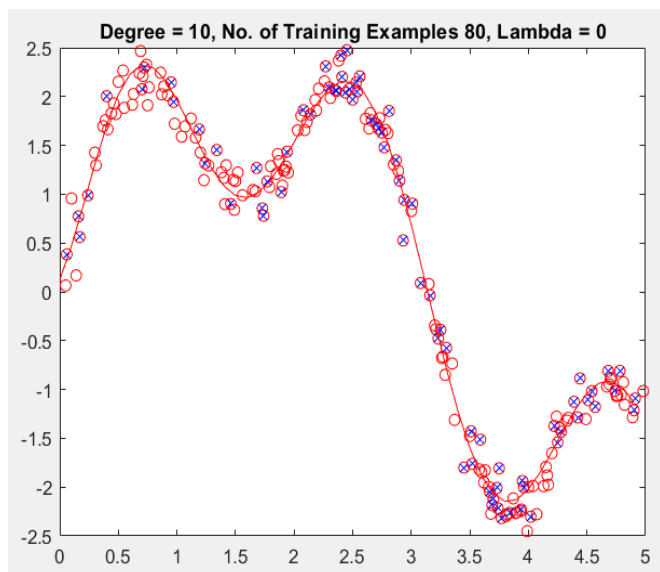
Team 34

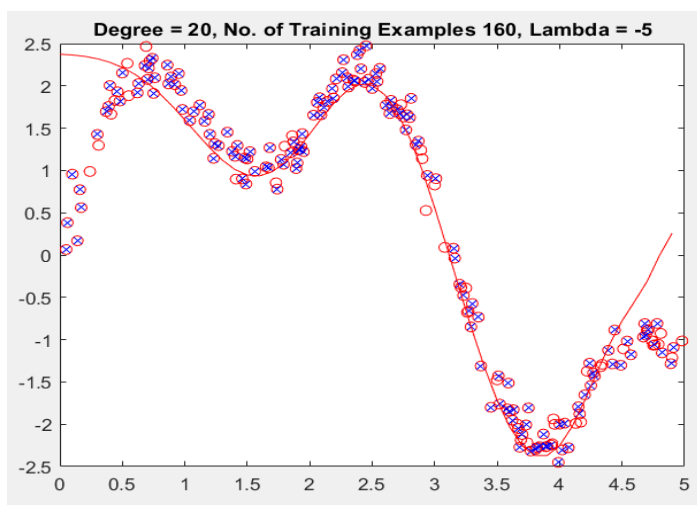
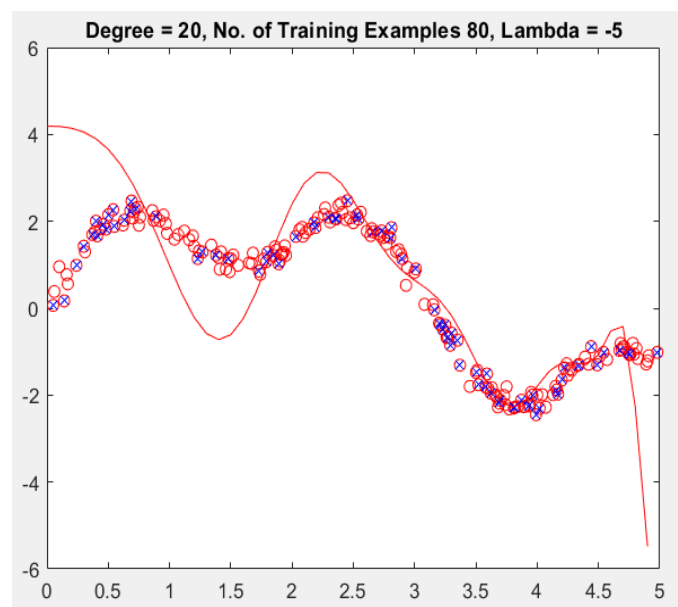
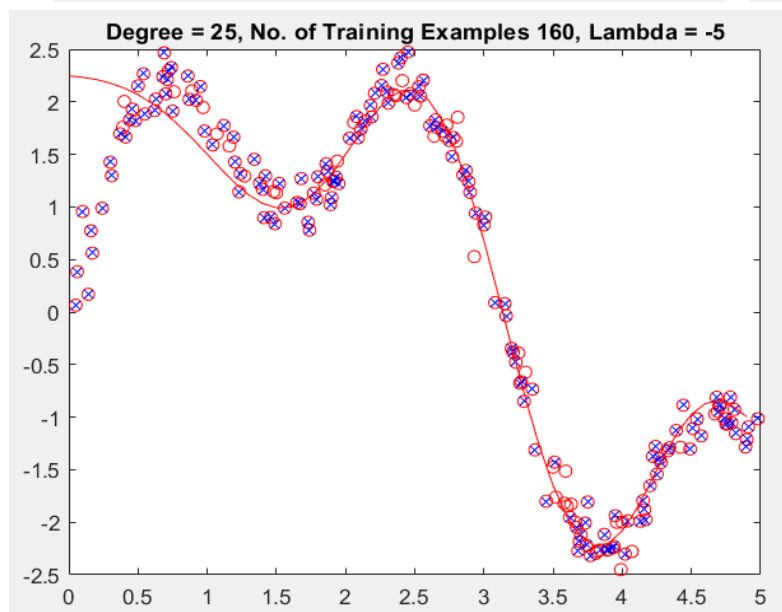
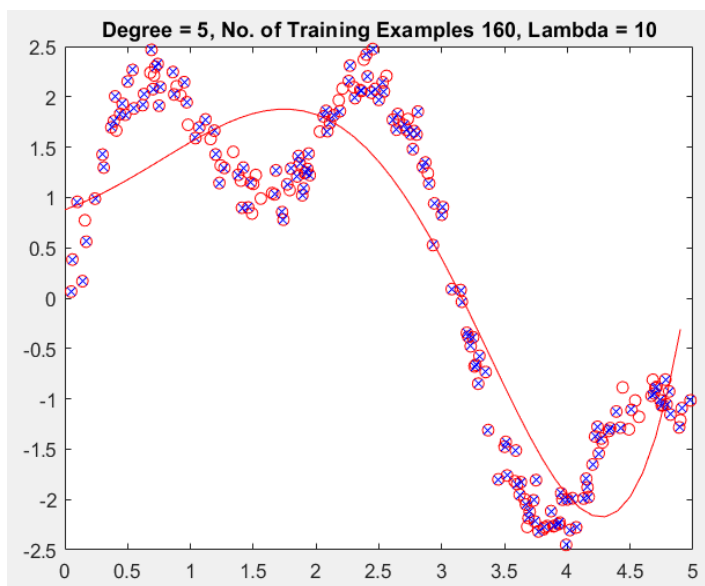
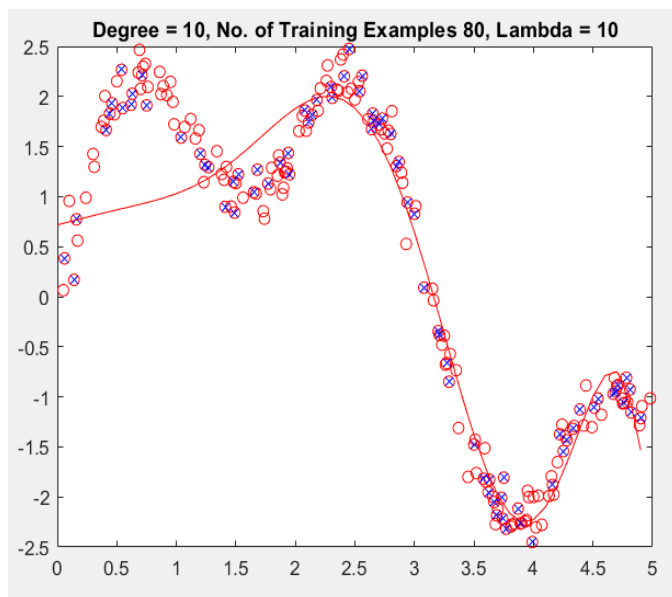
Nitin Yadav, AM20M004 and M Jaswanth Kumar, ED19B017

A) Regression

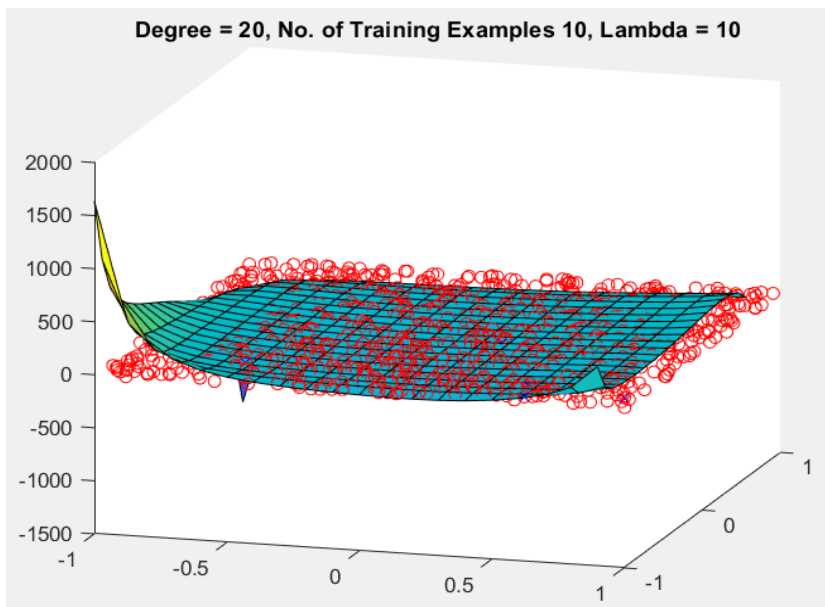
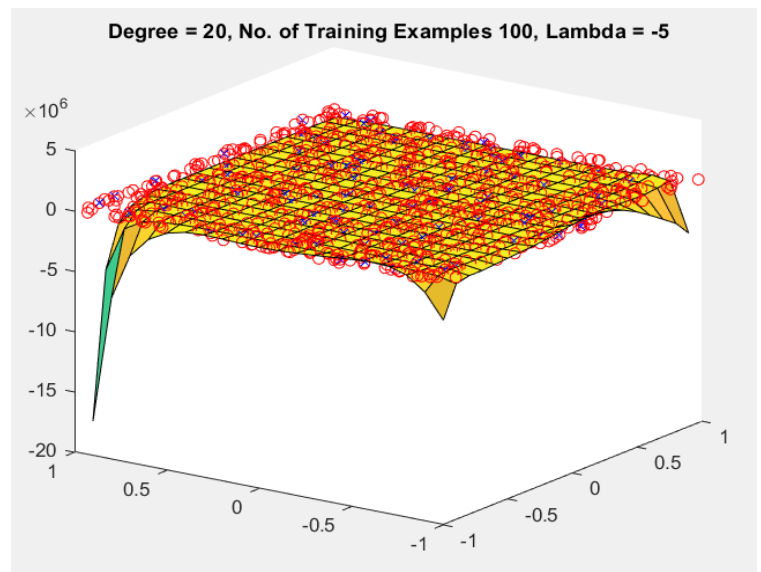
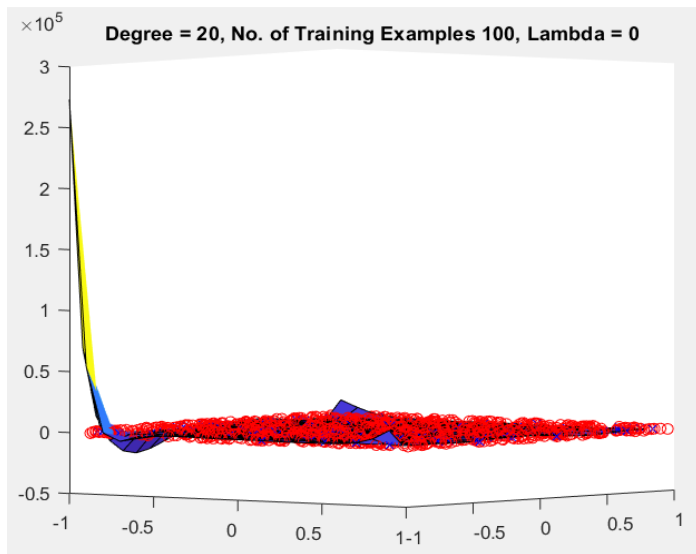
1-D Input







2-D Input



B) Bayesian Classifier
PDF plots:

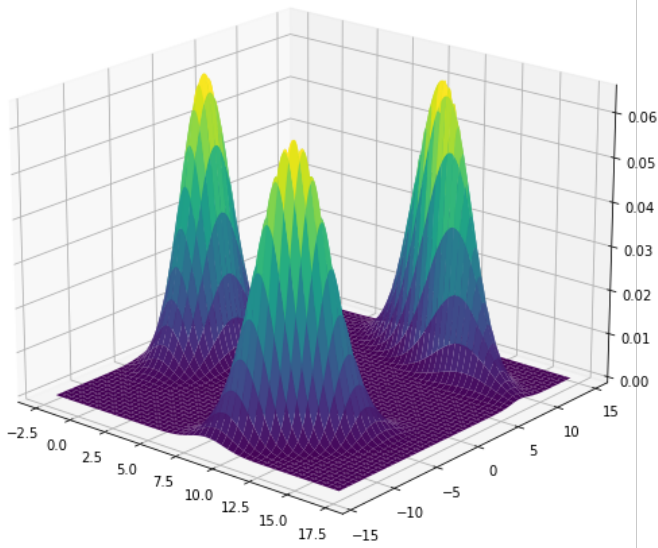


Fig. PDF plot for case 2 of
Linearly separable data

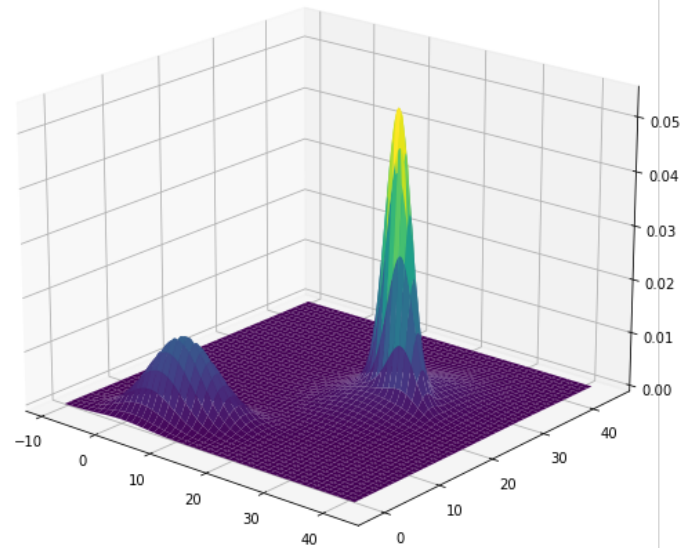


Fig. PDF plot for case 2 of
Non-Linearly separable data

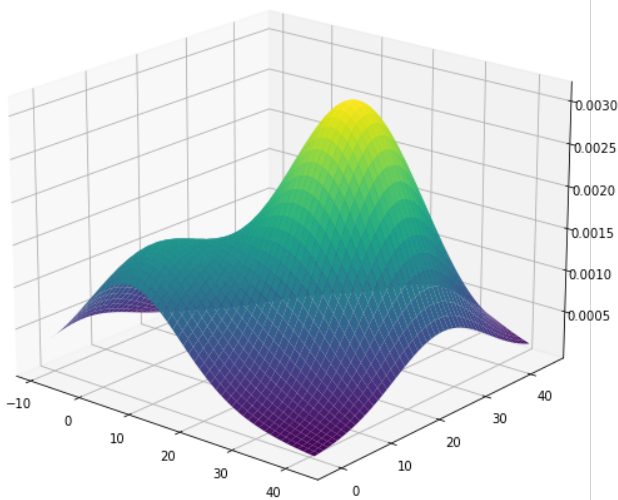


Fig. PDF plot for case 3 of
Non-Linearly separable data

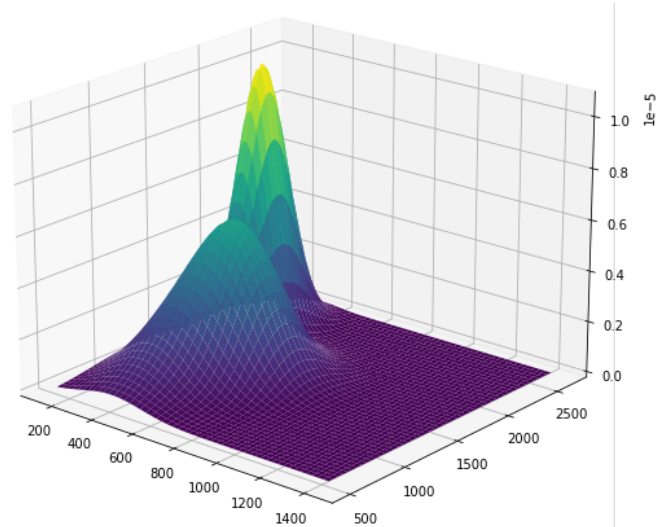


Fig. PDF plot for case 5 of Real data

Decision boundary & Decision surface:

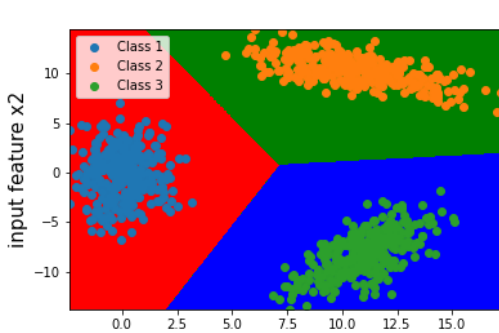


Fig. Decision boundary & surface for case 1 of Linearly separable data

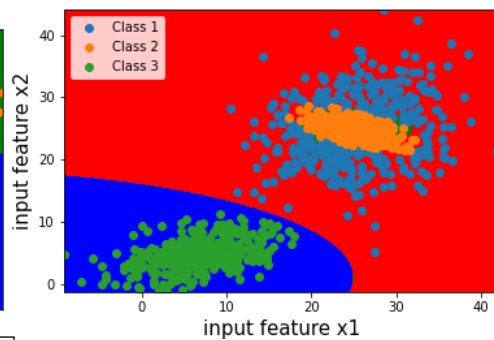


Fig. Decision boundary & surface for case 5 of Non -Linearly separable data

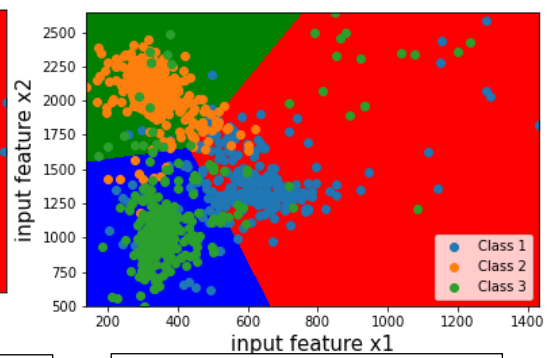


Fig. Decision boundary & surface for case 1 of Real data

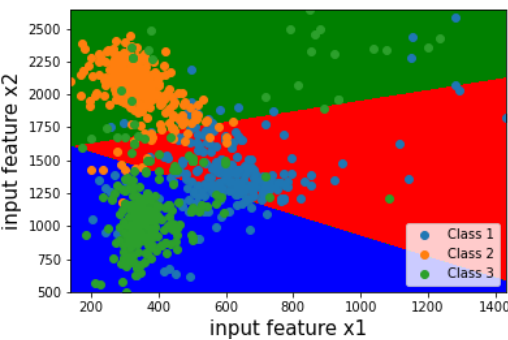


Fig. Decision boundary & surface for case 3 of Real data

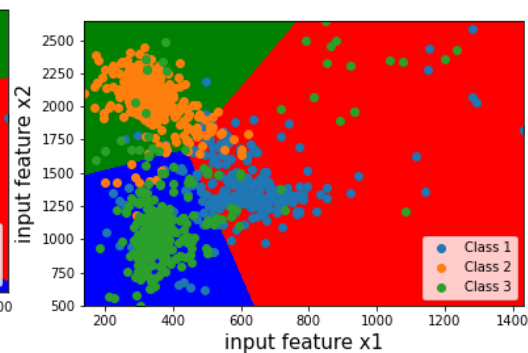


Fig. Decision boundary & surface for case 4 of Real data

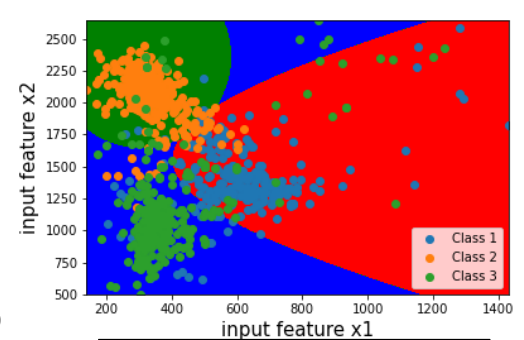


Fig. Decision boundary & surface for case 5 of Real data

Constant Density curves & Eigen vectors:

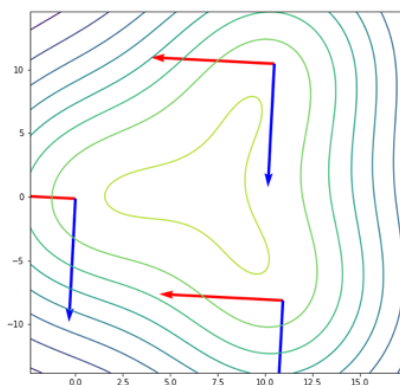


Fig. Contour plot & Eigen vector for case 1 of Linearly separable data

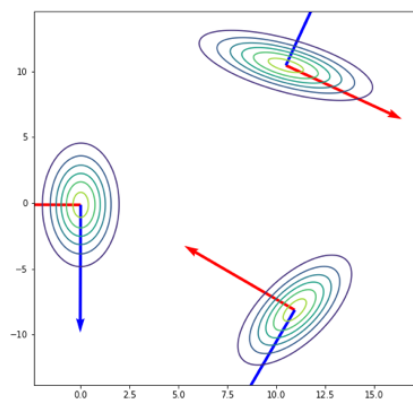


Fig. Contour plot & Eigen vector for case 2 of Linearly separable data

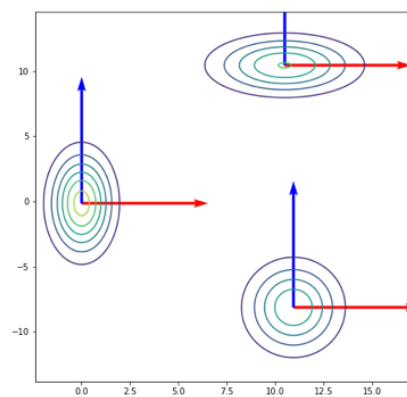


Fig. Contour plot & Eigen vector for case 5 of Linearly separable data

Confusion Matrix:

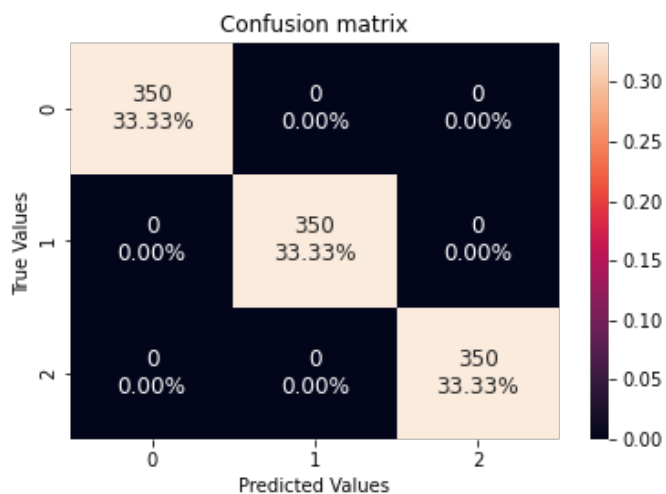


Fig. Confusion matrix for case 1 of Linearly separable data

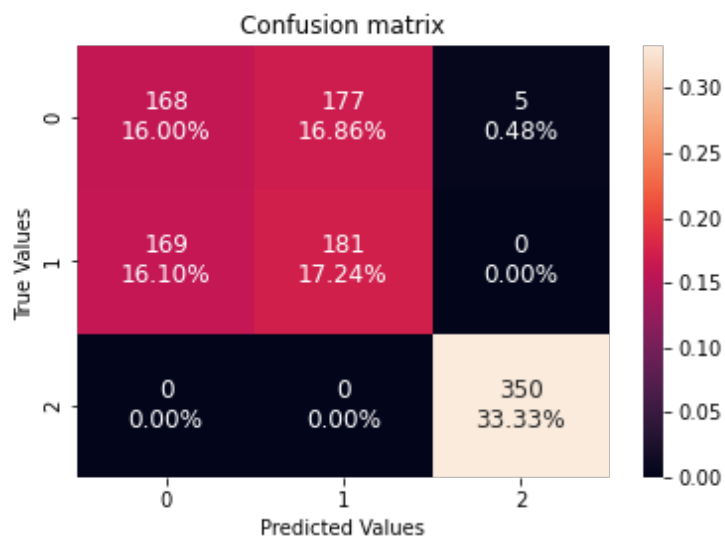


Fig. Confusion matrix for case 1 of Non-Linearly separable data

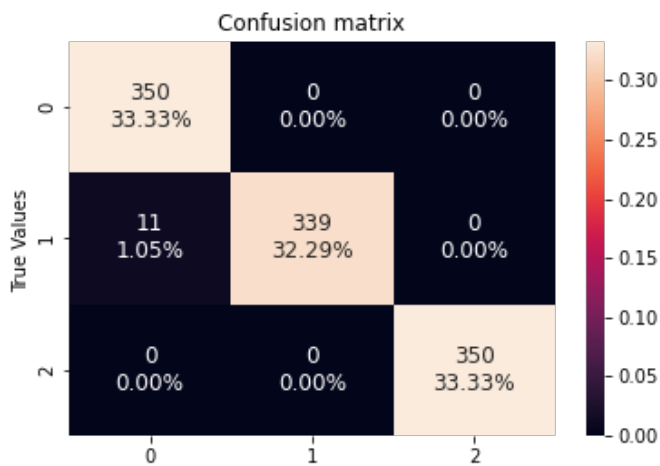


Fig. Confusion matrix for case 2 of Linearly separable data

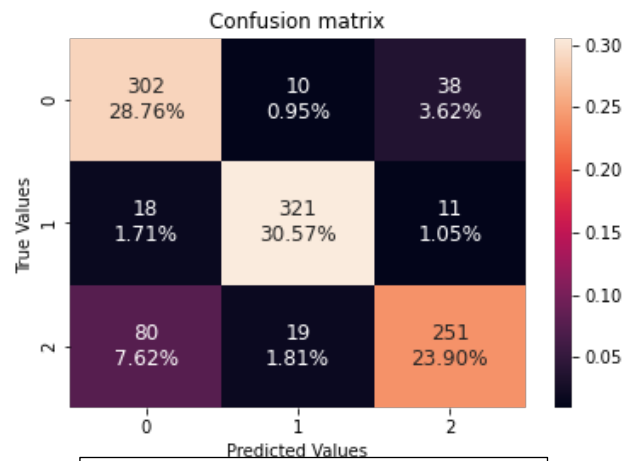


Fig. Confusion matrix for case 1 of Real data

ROC Curves:

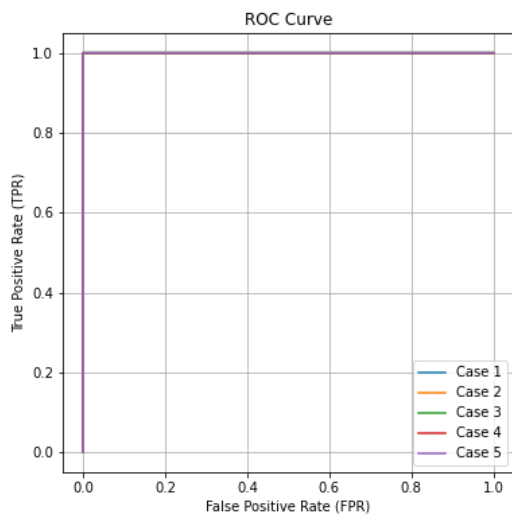


Fig: ROC curve for Linearly Separable

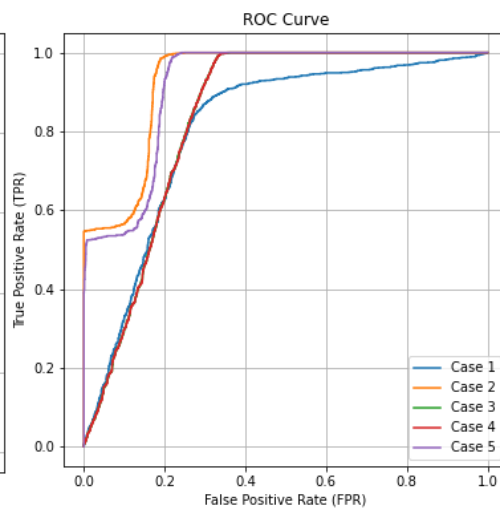


Fig: ROC curve for Non-Linearly Separable data

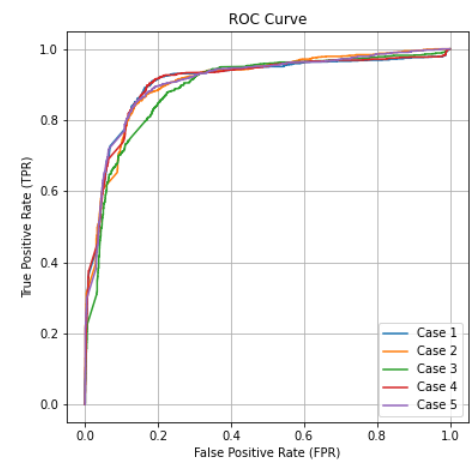


Fig: ROC curve for Real data