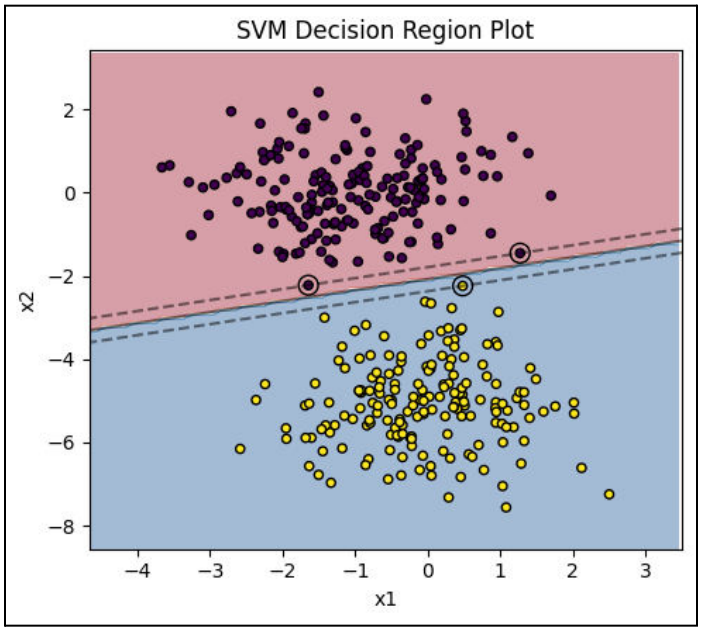

1.9 Decision Region Plot on Training data

Observations

- Accuracy on validation data is not '1' even after finding the Maximum margin hyperplane.
- This is because the parameters of the SVM depend on the support vectors in the training data.
- There might be noisy points among the support vectors or the support vectors might not be the actual extreme points.

All the 3 models on data set 1(a) gave the same best accuracies on validation and test data which are equal to 0.977 and 0.98 respectively.

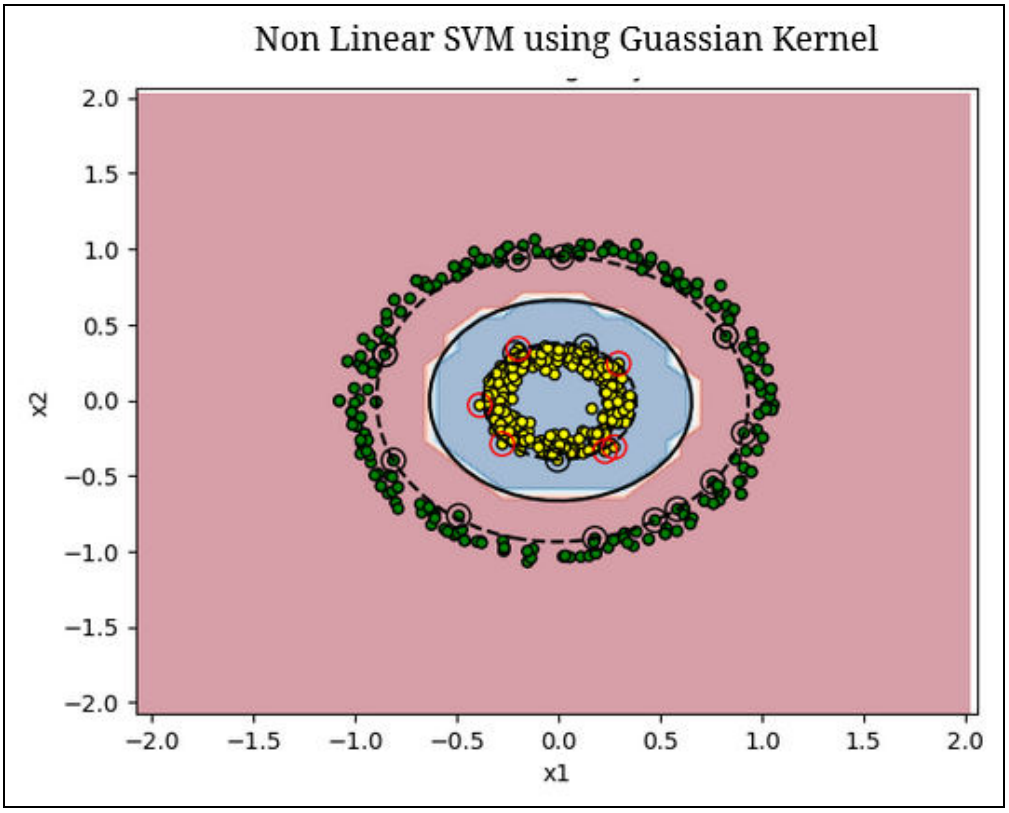

Fig 2.9 Decision Region Plot on Training data

Red ones denote the bounded support vectors.

Observations

- Accuracy of 1.0 on validation data is obtained when C >= 1 for Gamma = 0.1.
- For Gamma >= 1, Accuracy is 1.0 on validation data for all values of C >= 0.01.

All the 3 models on data set 1(b) gave the same best accuracies on validation and test data which are equal to 1.0.