Feature Selection Results:

1. Logistic Regression Model with Stratified K Fold Cross Validation

Poor results will all 16 features returned. Accuracy remained at 68.22%.

1. Gradient Boosting Model with Stratified K Fold Cross Validation

Improved results with 11 features remaining. Accuracy improved slightly from 77.08% to 77.17%.

1. SVC (Linear Kernel) Model with Stratified K Fold Cross Validation

Worst results with 8 features remaining. Accuracy improved slightly from 59.81% to 60.11 but poor results overall.

Best accuracy resulting from a gradient boosting model with a score of 77.17% after feature selection. The logistic regression model performed slightly worse and was not able to reduce the number of features selected. The SVC model was just slightly better than random prediction (=50%) with a score around 60%.

The ROC curve shows a better than random performance but only just so. The performance of the model is poor.