

SVM

Results

Model	Correctly Classified	Incorrectly Classified	True Positive (above \$50K)	False Positive	True Negative (less than \$50K)	False Negative
PolyKernel exponent 1	85.11%	14.89%	11675	1664	2182	760
PolyKernel exponent 2	84.62%	15.38%	11491	1560	2286	944
RBFKernel Gamma .01	83.69%	16.31%	11649	1869	1977	786
RBFKernel Gamma 1	82.83%	17.17%	11648	2009	1837	787

Anomalies

We would have expected the PolyKernel with exponent 2 to be more accurate than exponent 1. Normally the higher the plane the more accurate the model fits the data to the point of overfitting. However exponent 2 was overall lower in correctly classifying the data, though it was better with identifying the less than \$50K than the model built with exponent 1, but model exponent 1 was better at identifying the above \$50K instances.

Conclusion

_____The simplest model (PolyKernel with exponent 1) is the best, in terms of time/cost and accuracy. PolyKernel with exponent 1 ran the fastest and had the most True Positive results and the second highest True Negative results. However all of the models built with SVM have similar accuracy from 82-85%. Compared to the other classification models we used SVM has a ____ accuracy rate.