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Graded Assignment 2 Report

1. This model looks to be performing very well as its accuracy rate is 91% and a very low misclassification rate 0.09%. The false positive rate is low while the false negative rate is pretty high (at 65%) which tells me that the model is having trouble classifying positive cases (Fraudulent). This could be because there is not a lot of fraud instances compared to non-fraud instances (88 fraud to 952 non-fraud).

Confusion Matrix

G	H	I	J	K
1		Predicted		
		Fraud	NonFraud	
actual	Fraud	30	58	88
	NonFraud	32	920	952
				1040

Calculations

				Accuracy Rate	0.913462
				error rate	0.086538
Accuracy Rate	TP+TN / total predictions				
error rate	1-AR			TPR	0.340909
				TNR	0.966387
				FPR	0.033613
TPR	TP/(TP+FN)			FNR	0.659091
TNR	TN/(TN+FP)			Precision	0.483871
FPR	FP/(FP+TN)				
FNR	FN/(Fn+TP)				
Precision	Tp/(TP+FP)				

2. This model seems to be doing alright on the sample dataset with an accuracy rate greater than 70% (72.5%). The misclassification rate is 27.5% which is acceptable. The false positive and false negative rates are close to each other which tells me that the model is classifying both classes well and that can also be seen as the precision score is showing the predicted positive outcomes being correct.

Confusion Matrix

2		Predicted		
		Fraud	NonFraud	total
actual	Fraud	310	90	400
	NonFraud	130	270	400
				800

Calculations

Accuracy Rate	TP+TN / total predictions				Accuracy Rate	0.725	
error rate	1-AR				error rate	0.275	
TPR	TP/(TP+FN)				TPR	0.775	
TNR	TN/(TN+FP)				TNR	0.675	
FPR	FP/(FP+TN)				FPR	0.325	
FNR	FN/(Fn+TP)				FNR	0.225	
Precision	Tp/(TP+FP)				Precision	0.704545	