Florida Atlantic University
COLLEGE OF BUSINESS

ISM 6136 – Datamining/Predictive Analytics

Class Assignment 2
5 points

TASK: BUILDING A CLASSIFICATION/CONFUSION MATRIX

Construct a classification matrix showing the predicted class and actual class for the following questions and calculate the following:
Accuracy Rate, Misclassification Rate, True Positive Rate (TPR), True Negative Rate (TNR), False Negative Rate (FNR), False Positive Rate (FPR) and Precision.

1. A data mining routine has been applied to a transaction dataset and has classified 88 records as fraudulent (30 correctly so) and 952 as non-fraudulent (920 correctly so).
   (2.5 points)
   Analyze in 2 to 3 sentences how this model is performing in terms of accuracy, misclassification etc… do you think this makes a good model?

2. A large number of insurance records are to be examined to develop a model for predicting 'fraudulent' claims. A sample is taken to develop a model and when applied to this sample (n = 800), the model ends up correctly classifying 310 frauds, and 270 nonfrauds. It missed 90 frauds, and classified 130 records incorrectly as frauds when they were not.
   (2.5 points)
   Analyze in 2 to 3 sentences how this model is performing in terms of accuracy, misclassification etc… do you think this makes a good model?

   P.S. Just to verify your values – TPR+FNR should be equal to 1 and TNR+FPR should be equal to 1.