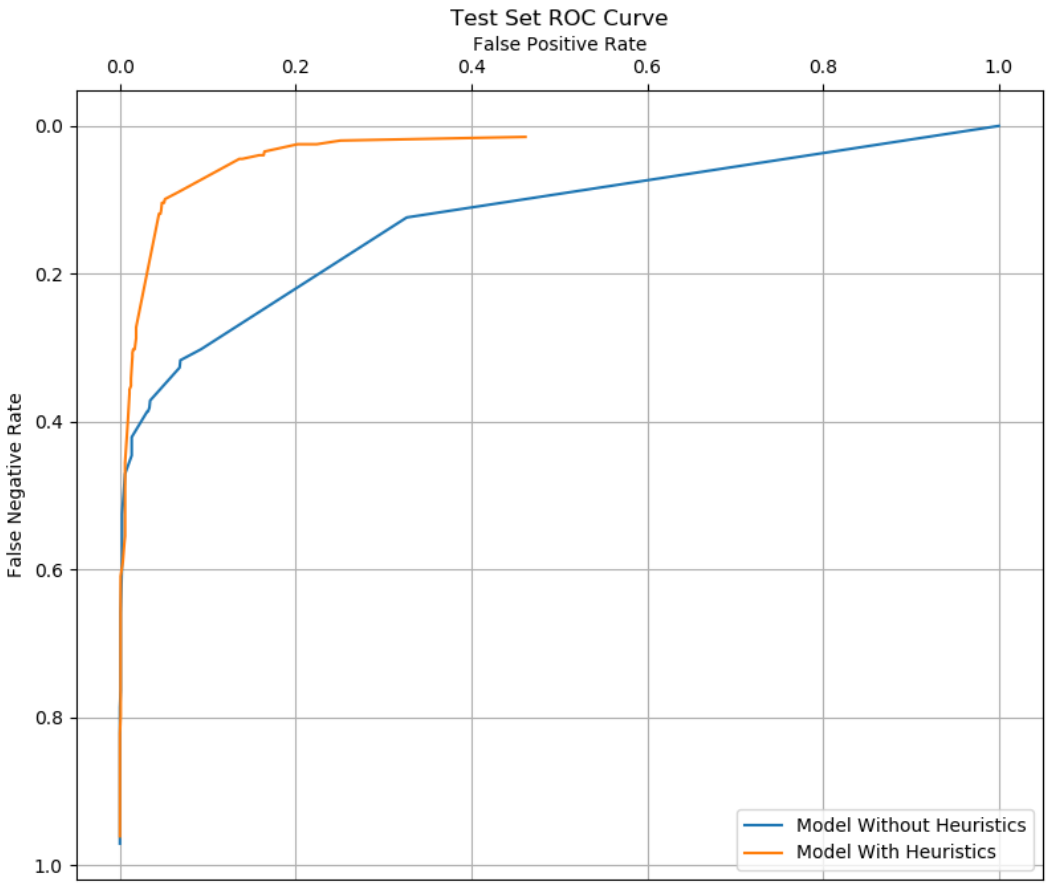
Assignment 3 – ROC & Operating Points

ROC Curve

By training the models with 10 MI Features plus with and without the predefined heuristic features, we can have the following ROC Curve that compare those 2 models:



For the raw data please run the program or see the *Result – ROC.txt* file.

Threshold that let FPR achieve 10%

Both models cannot have a threshold that make the FPR just as 10%. We can see there have a gap that may caused by our small number of features. And this course the result that many test samples will have exactly same scores.

Model use 10 MI Features without Predefined Heuristics

From the raw data, we can find the when threshold change from 0.114545 to 0.114949, the FPR changed from 32.6342% to 9.2282%. Although we cannot have a threshold that make the FPR just as 10%, but maybe we can still use the 0.1149 as the threshold since the FPR is near the 10% than threshold 0.114545.

Model use 10 MI Features with Predefined Heuristics

From the raw data, we can find the when threshold change from 0.169394 to 0.169798, the FPR changed from 13.5906% to 6.7114%. Although we cannot have a threshold that make the FPR just as 10%, but maybe we can still use the 0.1696 as the threshold since it's the middle of the jump points.