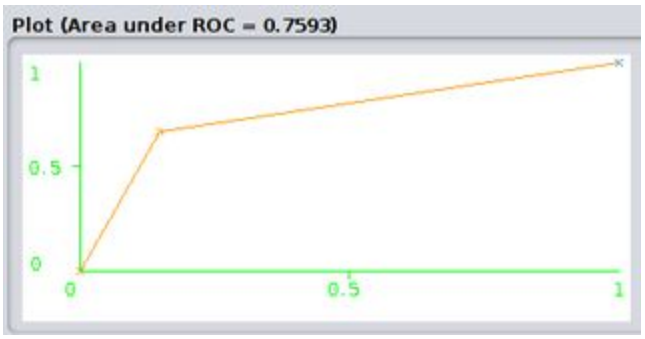
1-nearest neighbor

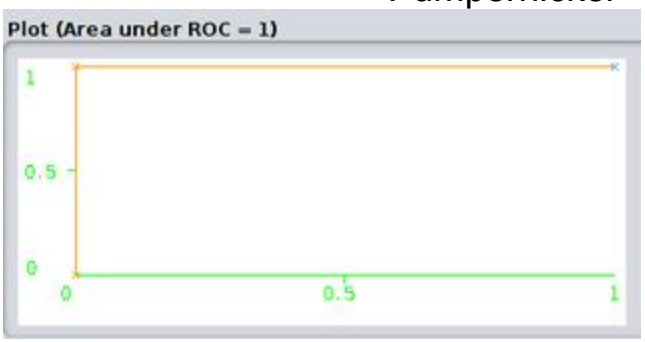
Egg

Potato



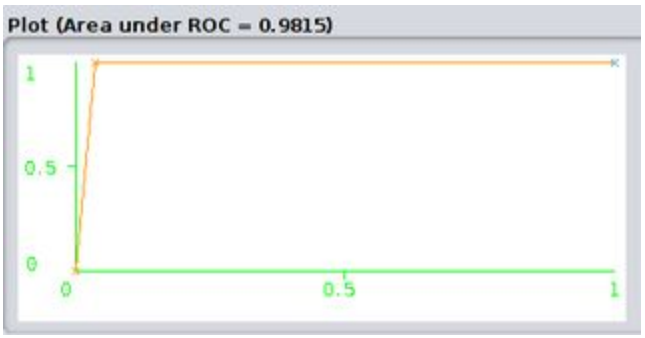
French

Pumpernickel

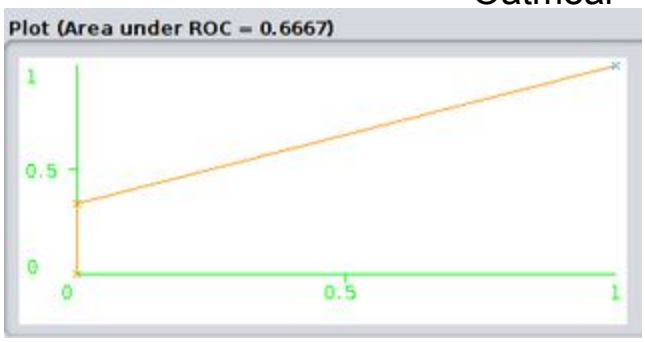


Italian

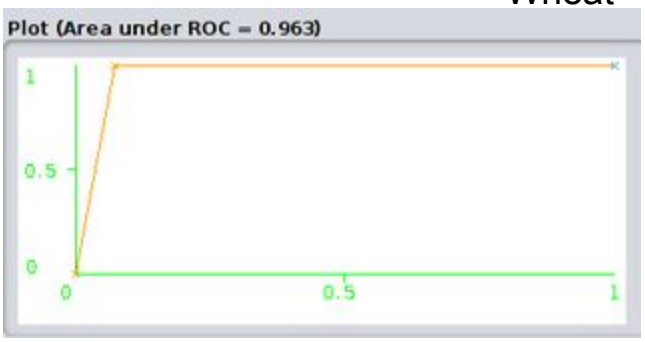
Rye



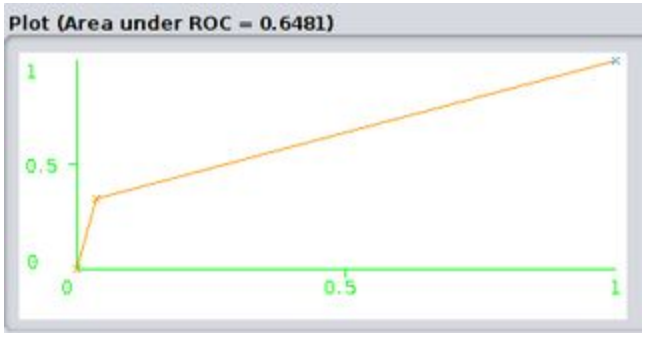
Oatmeal



Wheat



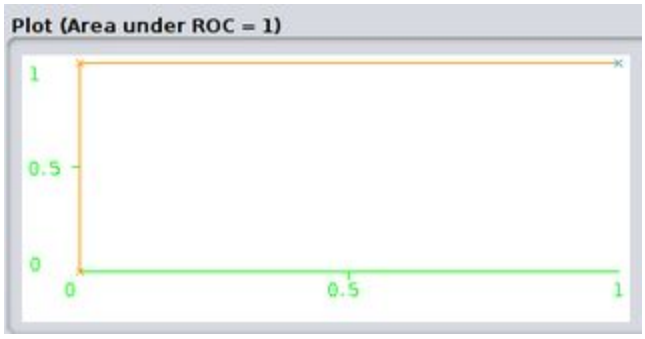
Pita



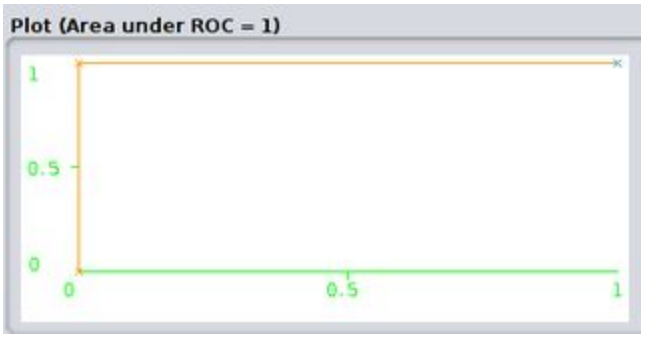
White

J48 Decision Tree

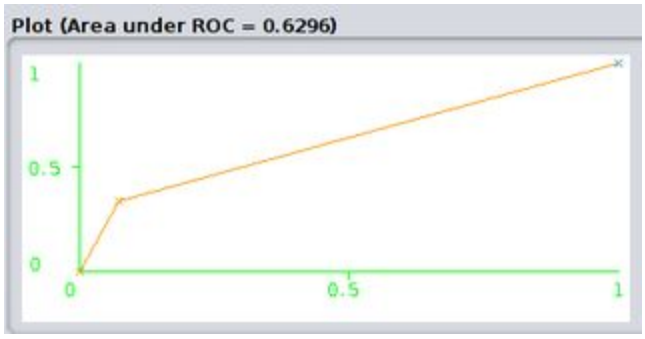
Egg



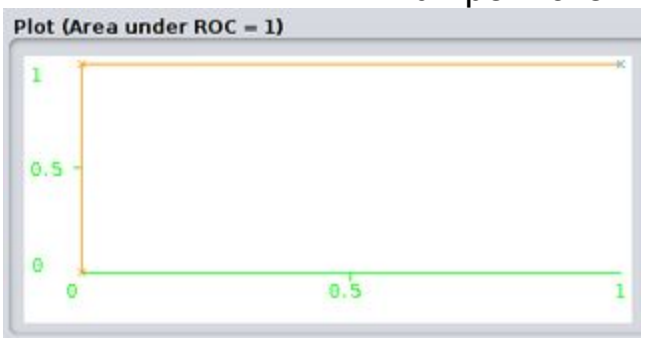
Potato



French

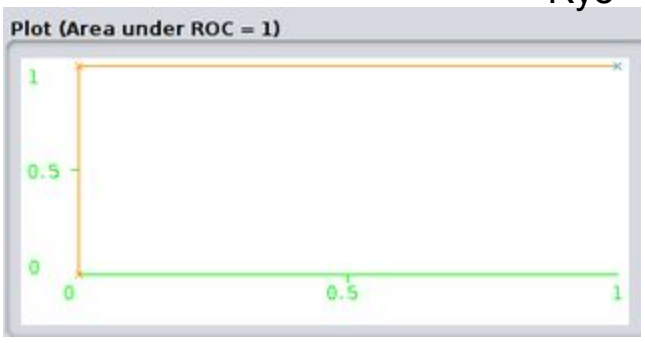


Pumpernickel

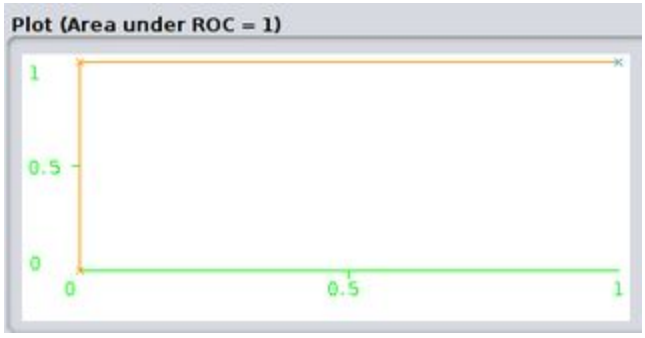


Italian

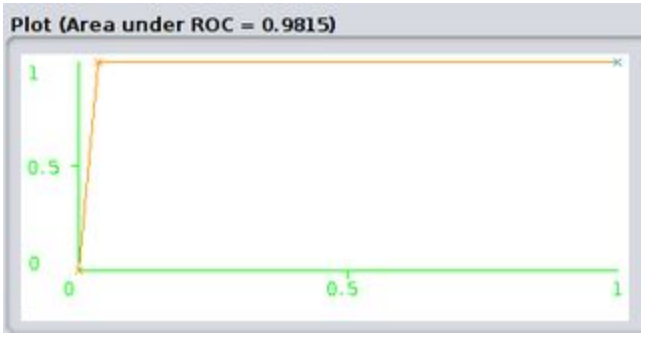
Rye



Oatmeal



Wheat



Pita

White

My data set has 30 instances with 12 (nutrition) attributes predicting bread type (measured in g, mg, or IU):

1. kcal
2. protein
3. fat
4. carb
5. fiber
6. sugar
7. ca
8. fe
9. na
10. vitC
11. vitA
12. class: white, egg, french, italian, oatmeal, pumpernickel, rye, wheat, potao, pita

The 1-nearest neighbor correctly classified 19/30 instances whereas the J48 decision tree did a better job, correctly classifying 25/30 instances.

The ROC curves show typical results for many classes. Sometimes the classifier correctly determined all instances of a given class (e.g., rye, oatmeal, and pumpernickel have some unique nutritional attributes), and there is an area of 1 under the curve.