ROCHESTER INSTITUTE OF TECHNOLOGY

CSCI-630 Project 2: Metal Part Sort

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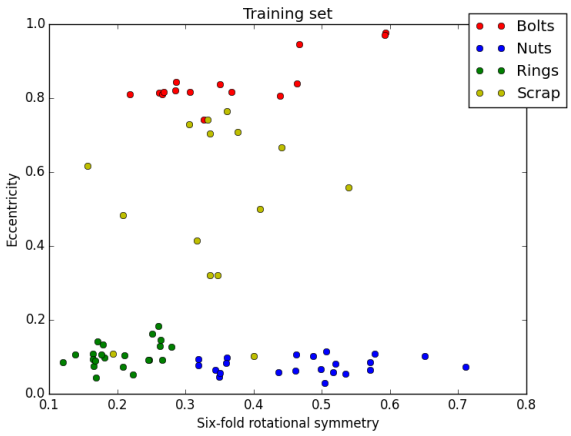
1 Algorithms

Briefly discuss the similarities and differences between the two learning algorithms. Which type did you expect to perform better in the experiment, and why?

2 Data

Provide separate plots for the training and test data sets. Show sample classes using colors and/or shapes. Comment on the distribution of classes in the data sets. a) Training set

Figure 2.1: Training set



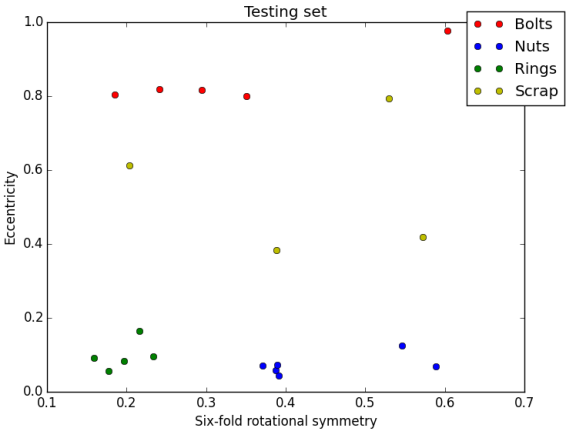
b) Test set

3 Results

3.1 MLP

i) Plots showing the test samples and classification regions produced by different numbers of training epochs
ii) Learning curve image(SSE vs Epoch) for the trained MLP

Figure 2.2: Testing set



iii)A table showing the recognition rate and profit for each number of saved epochs for the MLP

3.2 Decision Trees

i) Plots showing the test samples and classification regions produced by each of the two decision trees.
ii) Plots showing how feature space is split by each decision tree.
iii)A table providing the recognition rate and profit obtained by each decision tree, along with the tree metrics produced by trainDT.py.

4 Discussion

a) Which versions of the classifiers performed best in terms of 1) accuracy and 2) profit? Did this meet your expectations?
b) How do the hypotheses (i.e. class boundaries) and performance metrics differ between the different version of the MLP and decision trees, and why?