

Stepwise Classification

Machine Learning CS 453X

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Methodology

The image data is split into training set and testing set. The stepwise classifier is trained over different sample sizes of the training data. After each model is trained its accuracy is calculated over the entire training set and testing sets.

Observed results are shown below.

Sample Size	Accuracy over Training Set	Accuracy over Testing Set
400	73.55	71.11
800	76.65	74.07
1200	77.9	74.94
1600	77.55	76.36
2000	78.25	76.42





As we observe in the graph above, the training and testing accuracy increase linearly with small number of samples and tends to saturate as the number of samples go higher.

The testing accuracy is lower than training accuracy at all times which could be due to overfitting.

Visualizing Resultant Features

