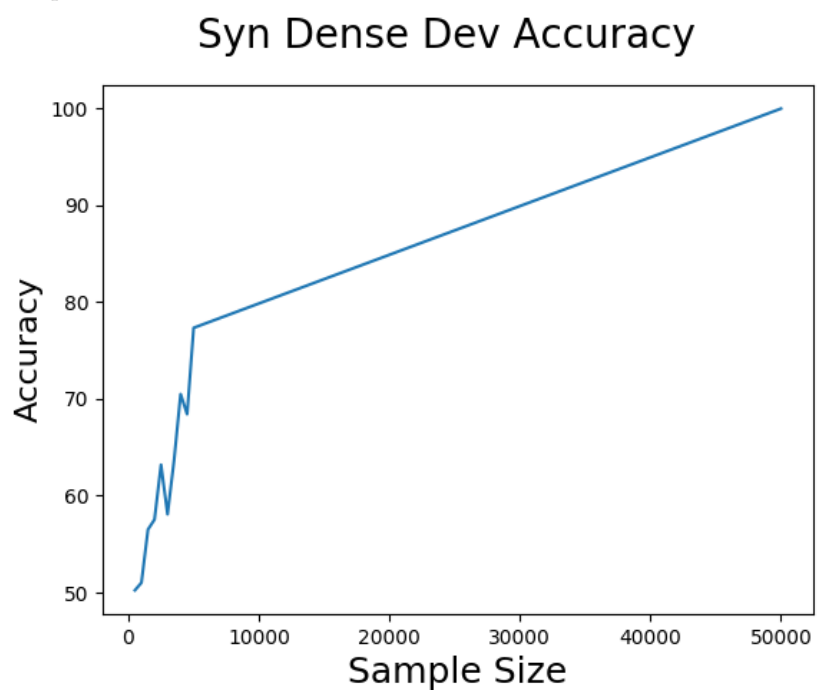


# CIS 519 Assignment 2

February 28, 2018

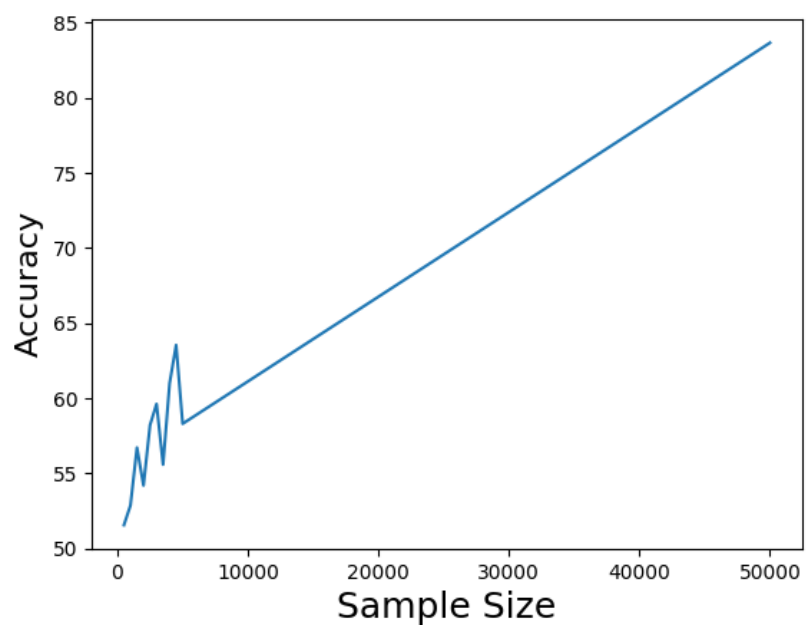
Part one- Learning plots:

- Perceptron on Dense Dataset



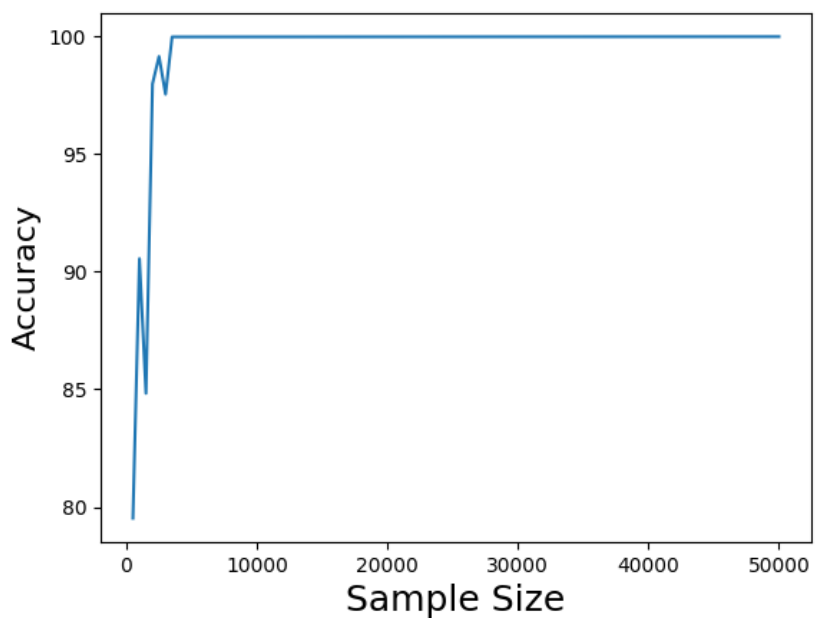
- Perceptron on Sparse Dataset

Syn Dense Dev Accuracy

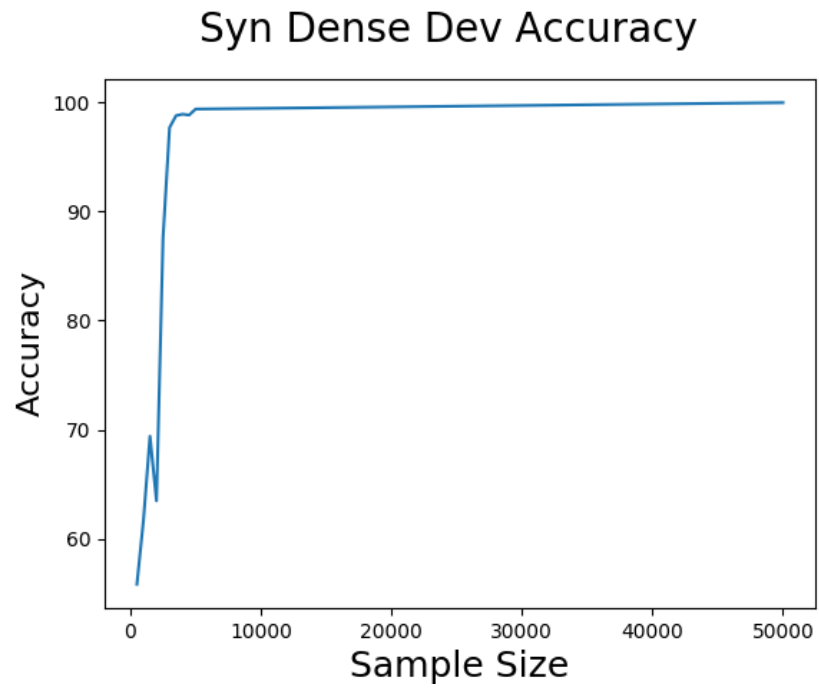


- Winnow on Dense Dataset

Syn Dense Dev Accuracy

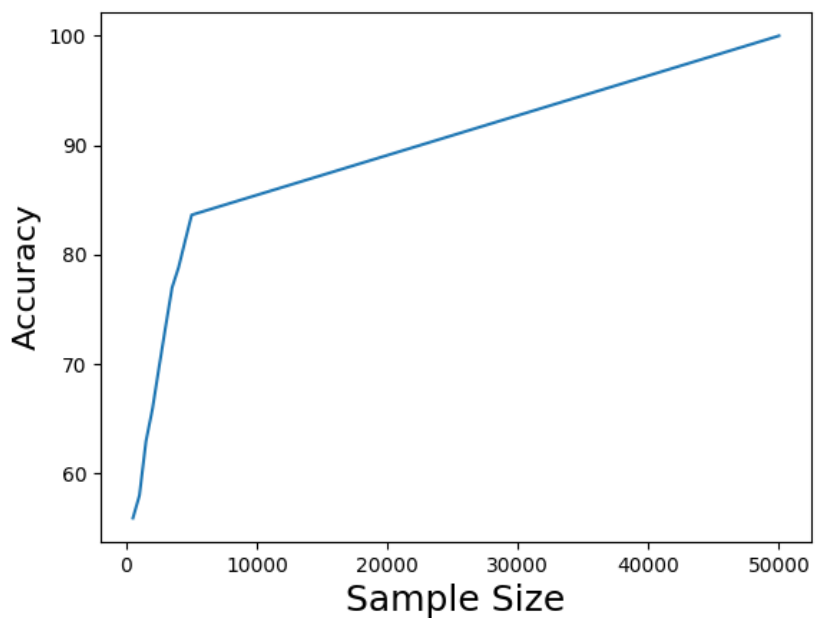


- Winnow on Sparse Dataset



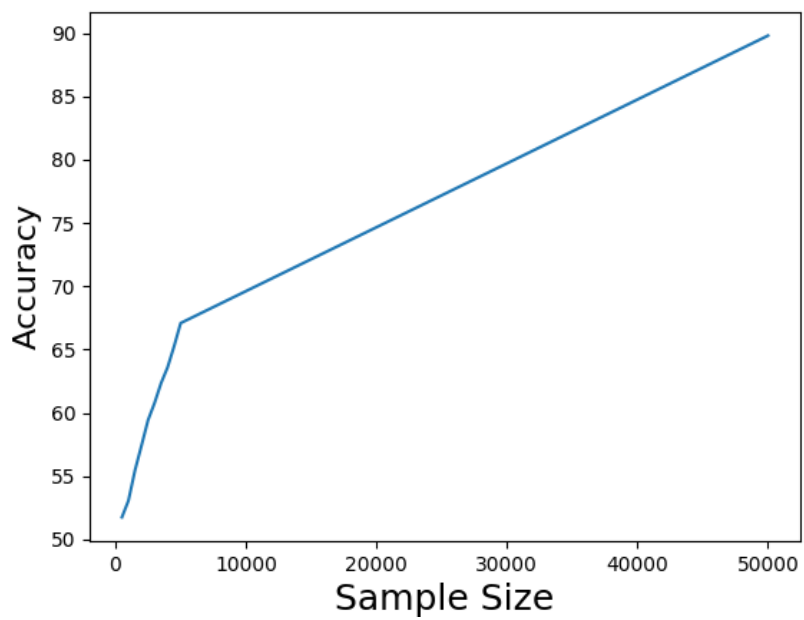
- Average Perceptron on Dense Dataset

Syn Dense Dev Accuracy

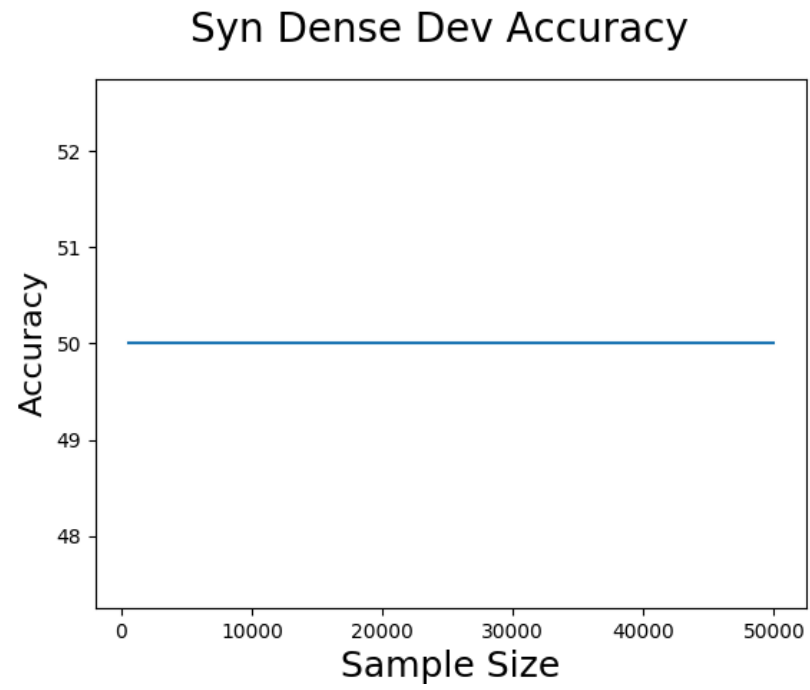


- Average Perceptron on Sparse Dataset

Syn Dense Dev Accuracy

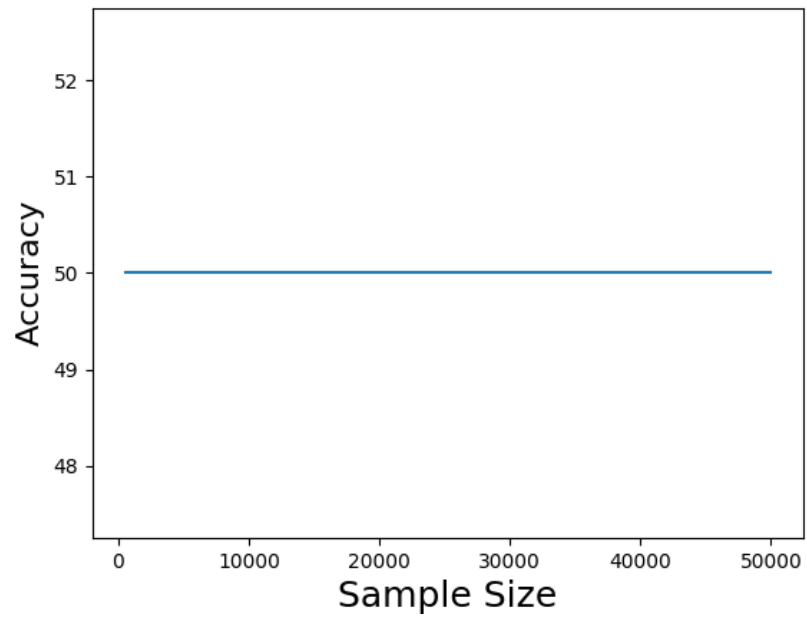


- Average Winnow on Dense Dataset



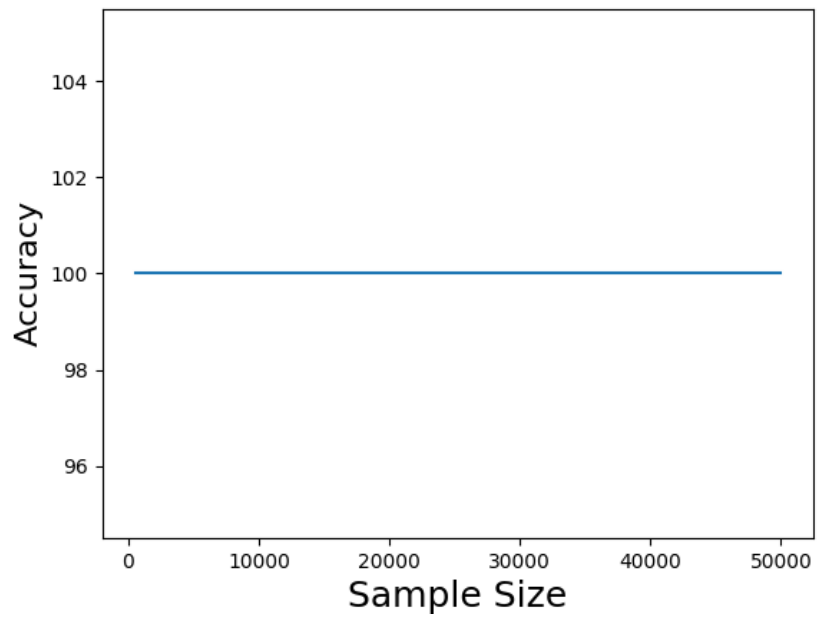
- Average Winnow on Sparse Dataset

Syn Dense Dev Accuracy

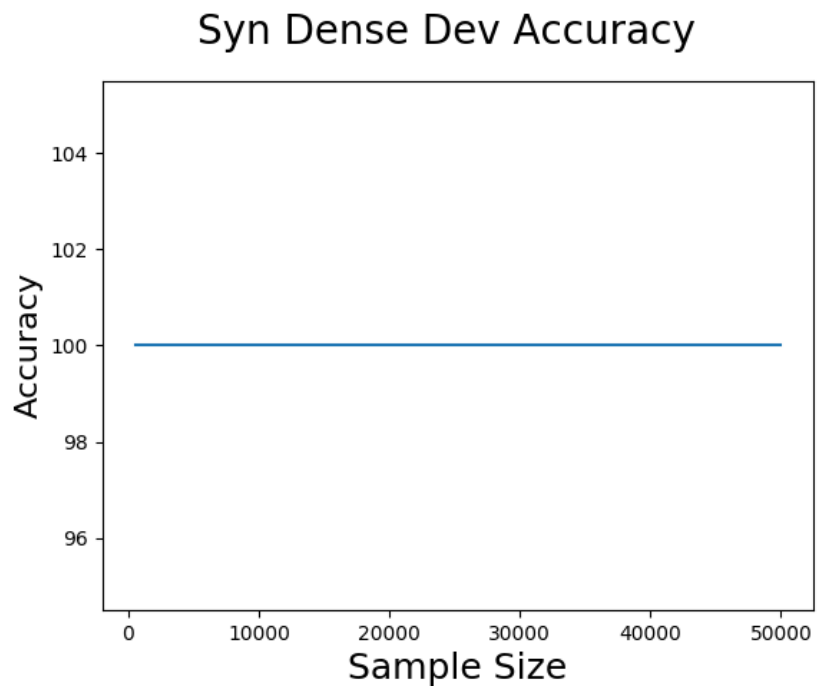


- SVM on Dense Dataset

Syn Dense Dev Accuracy



- SVM on Sparse Dataset



#### Part two- Accuracies

For Average Perceptron the accuracies are as follows-

- On Dense synthetic dataset- 100.0%
- On Sparse synthetic dataset- 89.79%
- On News Dataset- 87.509%
- On Email Dataset- 90.282%

For SVM the accuracies are as follows-

- On Dense synthetic dataset- 100.0%
- On Sparse synthetic dataset- 100.0%
- On News Dataset- 91.399%
- On Email Dataset- 91.968%