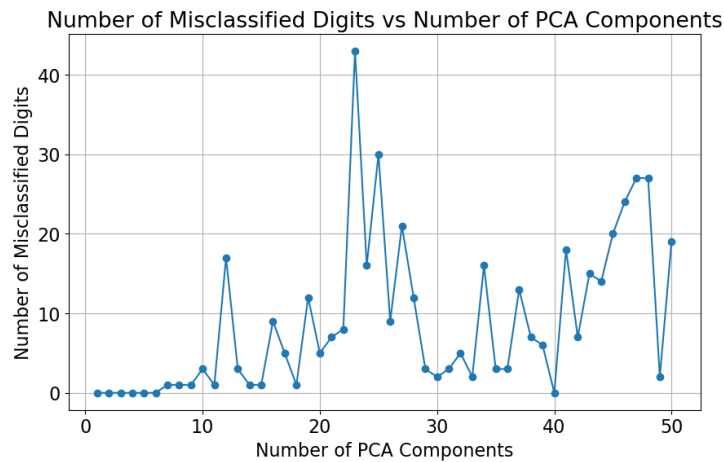# AMSC660 Homework #12

Kecai Xuan
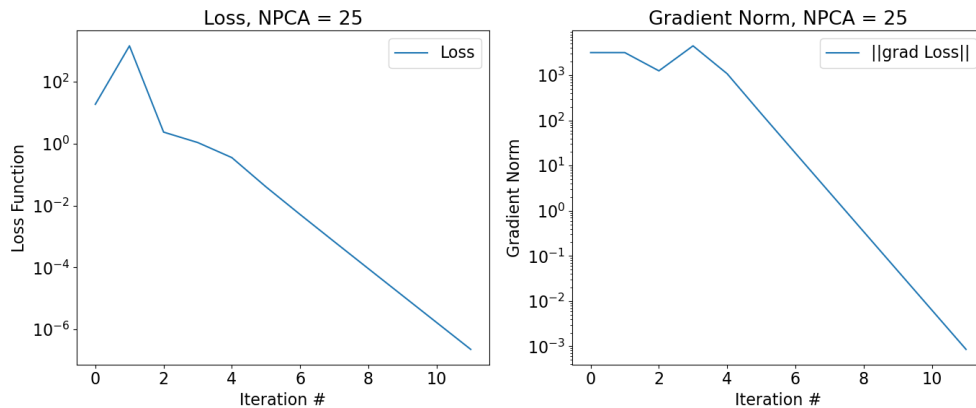
December 4, 2024

Task 1

The number of misclassified digits first rises up when PCA components increases, and then decreases. The optimal number of PCA components is around 30, which gives the lowest number of misclassified digits.
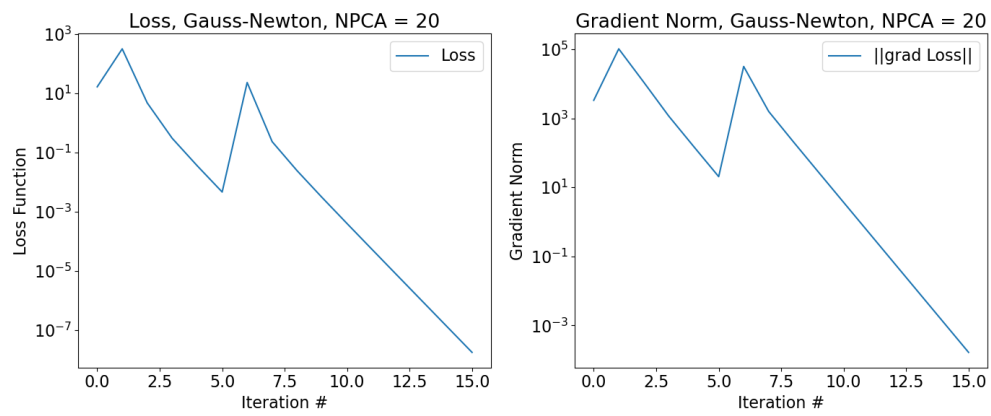

This is the learning curves when number of PCA components equals to 25:

Task 2

This is the learning curves when using Gauss-Newton method:

Task 3