**CLASSIFICATION USING NEURAL NETWORKS AND DEEP LEARNING**

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CSE575- Statistical Machine Learning

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1. **INTRODUCTION**
   1. I used the same MNIST dataset from project 1 to train a Convolutional Neural Network (CNN) using Tensorflow, Python, and Keras to classify digits. I first ran a modified version of the boilerplate code provided (keeping only the lr parameter for Adadelta, as the original copy did not run) and reported both the loss and the accuracy. In the second part of the project, I redid the experiment with the original boilerplate by changing the kernel size, and plot the learning errors as well as reported error and accuracy. I then redid the experiment a third time by changing the number of feature maps in the first and second convolutional layers, while reporting the same output of testing error, accuracy on the test set, and a plot of the learning error.
      1. jupyter nbconvert --to script Mendoza-CSE575\_Project3.ipynb
2. **PART #1: Assessing Original Boilerplate**
   * 1. \_
3. **PART #2: Changing Kernel Dimensions (5x5)**
   * 1. \_
4. **PART #3: Changing Feature Maps**
   * 1. \_
5. **RESULTS**
   1. \_