

**CS 3891/5891**

Spring 2018

**Assignment 8**

**Convolutional Neural Networks**

The MNIST database contains the dataset for this problem. The objective of the assignment is to develop a CNN for digit recognition and get familiar with deep learning software tools such as TensorFlow and Keras.

*1. Convolutional Neural Networks*

- Develop a CNN using TensorFlow or Keras for digit recognition.
- Two simple examples (one in TensorFlow and one in Keras) are provided in Brightspace and can be used as a starting point. Alternatively, you can start with the examples provided in the Tensorflow or Keras online tutorials.
- Investigate the impact of the CNN architecture, optimization algorithms, regularization techniques, and hyperparameters.

*Submission*

- A report describing your solution
- Your software
- Jupyter notebook (optional)