

# MATH 569    HOMEWORK 6

*Due: May 1<sup>st</sup>, Monday, 11:59pm*

*How to submit: via Blackboard*

*If you have multiple files, upload a zipped file*

**Problem 1** Ex. 8.1

**Problem 2** Ex. 8.3

**Problem 3** Ex. 8.4

**Problem 4** Ex. 11.2

**Problem 5** Ex. 11.3

**Problem 6** Write a program to implement the neural network model of Net-2 in figure 11.10, and fit the neural network to the **zipcode** data. Compare the results to logistic regression on classification performance. The **zipcode** data are provided. Due to the large size of the dataset, you are only considering the classification of three digits, 0, 1, and 2. Use a 70-30 split for training and testing data.

Using library functions is acceptable.