EEE 498 ML with application to FPGAs

All homework is handed in online. Don't hand in pictures of the code files, hand in the actual code files so I can see if they work. Hand in images of outputs of your code (displays, plots …) converted to pdf. If there are questions to be answered answer them in Powerpoint, Word, or on paper and convert to pdf.

Organize your work so that the answer to each problem can be easily identified, you will not get credit if your submission is poorly organized.

You can use any method to find the answers, python, c, c++, matlab

Though Python is likely the easiest and easiest to translate from lectures.

Homework 8 RNN and LSTM

In this exercise your objective is to write an LSTM algorithm that predicts the stock price some number of days in the future. Extract a stock that has a stock symbol that has the same first letter as your last (of if you don't have a last name your first name). Your objective is to pull data for the stock from yahoo_fin and build train and test a model that predicts the stock price in the future as many days as possible. Use at least a year of data. Find the train and test accuracy, and number of days in advance you can predict the stock value accurately. To determine this, you want to make a plot of prediction (test) accuracy versus number of days. Choose a reasonable minimum accuracy and report this number of days.

Submit in Canvas your code, train and test accuracy, and number of days in advance you can predict, and the plot. Write a couple of paragraphs on your methods and findings.

Hand in all output as a screen grab for each problem converted to pdf. It is a good practice to paste well organized and labeled images into PowerPoint, answer all

questions in the PowerPoint file, and then convert the PowerPoint file to pdf. Hand in all your code files. If code files are missing you will not get credit. It is typically easier to grade individual files rather than a zipped file, but either is accepted.