

SS21 MTH994 HW2

February 23, 2021

Submission

- Due date: 6:00 PM, March 9, 2021.
- Please upload your homework to D2L

Problem 1 – RNN (60pts)

The MNIST datasets are given: MNIST_X_train.csv (features), MNIST_y_train.csv (labels), MNIST_X_test.csv (features) and MNIST_y_test.csv (labels).

1. We have talked about the forward procedure of the Recurrent Neural Network (RNN). Please code the backward part without using any machine learning library.
2. Please tune the hyper-parameters and print the test accuracy of your model.

Problem 2 – LSTM (40pts)

The MNIST datasets are given: MNIST_X_train.csv (features), MNIST_y_train.csv (labels), MNIST_X_test.csv (features) and MNIST_y_test.csv (labels).

1. Please use Pytorch to program LSTM.
2. Please tune the hyper-parameters and print the test accuracy of your model.