EE5934/EE6934 DEEP LEARNING HOMEWORK #1

Introduction

The aim of this exercise is to familiarize students with the initial stages of typical image classification pipelines as well as provide an opportunity to enhance proficiency in writing code with the **NumPy API for Python**.

Please ensure that you have installed Anaconda Python (version 3.7) in your computer as well as the Jupyter Notebook, a web-based interactive Python interpreter that allows users to type and run Python code in a web browser.

Getting ready

Download homework.zip from LumiNUS and unzip it. It consists of folders HW1 and data. To begin the homework, start the Jupyter Notebook server and proceed to complete HW1/HW1.ipynb according to the instructions provided.

USPS Dataset

For this homework assignment, we will use the USPS dataset. The US Postal (USPS) handwritten digit dataset is derived from a project on recognizing handwritten digits on envelopes. The digits were downscaled to 16x16 pixels and 1:1 scaled. The training set has 7291 samples, and the test set has 2007 samples. You can download the USPS dataset from here.

Submitting your completed Homework#1 (Deadline: 23:59 Feb. 09 (Sun.))

1. Export your notebook file HW1.ipynb to an html page and include it in the HW1 folder by selecting the following sequence in the menu bar of Jupyter Notebook: File → Download as → HTML(.html). Please make sure that the **submitted notebooks have been run and the cell outputs are visible**.

2. Compress the HW1 folder into a zip file and rename it as "YourStudentNumber_HW1.zip" before uploading it to LumiNUS.

NOTE:

1. Strictly follow the above instructions when submitting your completed assignment.
2. Do **NOT upload any data file** and do **NOT include your name in the filename**.
3. Do **NOT share your solution code** with others. You should submit your own work/code.
4. There will be **penalties** for cheating and late submissions.