

## **CS2310 Milestone #1 Report**

Mengjie Mao

### **Title:**

A digit recognition system prototyped by SIS Testbed

### **Description:**

In this project, an image recognition system will be implemented using the Testbed slow intelligent system (SIS) framework. The image recognition system takes the gray scale image as input, and tries to figure out the class the input image belongs to. Since there are numerous classification algorithms, we will narrow down the area into neural network which can gracefully match the procedure of SIS.

A well known neural network-Auto Associative Memory is used for optical character recognition (OCR) for printed text. In this project, we will mainly focus on recognition of handwritten digits. The dataset of digits is adopted from MNIST, a widely used dataset for pattern recognition community. Relying on the quick prototyping ability of SIS Testbed, we expect to build a simple system using AAM to recognize the image from MNIST.

### **Deliverables:**

**Milestone 2:** finish investigating the AAM algorithm and also implementing the main algorithm by coding.

**Project demo:** plug the algorithm into SIS Testbed, and deliver the GUI for the whole system.

**Plan B:** in case the algorithm cannot be successfully combined onto SIS Testbed, or the GUI may fail to be realized, a more concise design utilizing the command mode should be implemented on PC.