

# Final Project Specification

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## 1 Brief Introduction

In the final project, you are required to build a classifier for a modified version of MNIST data. You are free to use traditional models or deep learning approaches.

### 1.1 Data

The data set can be downloaded from <http://cmach.sjtu.edu.cn/course/cs420/projects/mnist.zip>. All the description is listed in the zip file.

### 1.2 Model

We will not provide GPU for training your deep learning models. So if you have trouble training your network with your computer, please seek traditional models. At least **3** different approaches should be used for performance comparison, which means that in your final report, you should implement at least three different algorithms.

### 1.3 Group work or individual work?

You are encouraged to work on this project on your own. If you want to join a group, the maximum size of your group should be 3.

## 2 Evaluation

### 2.1 Codes

You are required to submit your code by providing a link to your github repo. If you don't know how to use github, ask your peers for help.

### 2.2 Report

All you have to turn in for your final project is a report that contains your ideas, your algorithms and the comparison of three different algorithms. You can write your report in word or latex, English or Chinese. Extra bonus will be given to the report written in latex and English (no more than 5 points). If you are in a group, there is no need to provide information about the individual work. The points given to all group members will be the same. So the things should be in your report:

1. **Project description.** We will judge whether you understand the project by looking at your description.
2. **Solution ideas and algorithms.** Three different algorithms for comparisons. We will not only judge your algorithms by performance, i.e., classification accuracy, but also judge your understanding about these algorithms. Please please provide detailed solution and why you choose to use this algorithm.
3. **Code implementation.** Provide your link to your github repo for this project. Codes will be judged by cleanness and readability. So please comment your codes.

### 3 Deadline

We should discuss it later.

### 4 Questions

If you have any question about this project, just email or QQ me.