

## Project Proposal – Group LGD

1. What are the names and NetIDs of all your team members? Who is the captain? The captain will have more administrative duties than team members.

Team members: Zhihao Xu (zhihaox3), Qikai Yang (qikaiy2), Hang Qi (hangq2).

Captain: Zhihao Xu

2. What is your free topic? Please give a detailed description. What is the task? Why is it important or interesting? What is your planned approach? What tools, systems or datasets are involved? What is the expected outcome? How are you going to evaluate your work?

Our free topic is Sentiment Analysis for IMDB Movie Reviews. It works with the Large Movie Review Dataset. We will train models to detect and classify the sentiment of written text. More specifically, we will try to feed a movie review into a model and have it predict whether it is a positive or negative movie review. A bag of words model, Convolutional Neural Network and Recurrent Neural Network are involved in this project. We will evaluate our work with the precision rate and compare it with different methods and models.

3. Which programming language do you plan to use?

We plan to use Python.

4. Please justify that the workload of your topic is at least  $20 \times N$  hours,  $N$  being the total number of students in your team. You may list the main tasks to be completed, and the estimated time cost for each task.

- Project Setup - 20 hours
- Implement Model 1 - 15 hours
- Implement Model 2 - 15 hours
- Implement Model 3 - 15 hours
- Train – 25 hours
- Test and optimize - 10 hours
- Write reports - 10 hours