CSE-5819 Introduction to Machine Learning

Research Project Proposal Preparation -- 2024 Fall

Instructor: Suining He

This document is intended to help you prepare your research project proposal. Please note that you need to first draft your idea with doable project plan for the following time of the semester, including the project proposal presentation (tentative video recordings) and final project presentation (tentative early December).

Page length: each student of a group contributes **2** complete pages (excluding references), double-column (IEEE conference format is required). In other words, the submitted manuscript in HuskyCT should contain **4** pages for a team consisting of two students. Note that this does <u>not</u> include the pages of references.

(IEEE conference template website: https://www.ieee.org/conferences/publishing/templates.html)

Proposal report submission deadline: End of Day (11:59 pm), October 4.

Regarding the proposal, you need to prepare the following sections *explicitly* provided in the submitted proposal report (total 100pt):

1. **Introduction + background (*30pt*)**: please explain the background which motivates you to conduct the corresponding studies. Why is the problem important and appealing to you? Why is the existing work not sufficient? What are the potential new challenges? What directions would be possible to solve the problems? What are you going to study and what is your brief plan of the study?

2. **Related work and paper survey (*25pt*)**: You need to conduct an extra survey study on at least 5 most related papers which are **outside** the reference list of the recommended paper. More are welcomed and recommended. This part helps you to organize how you obtain your inspiration from others and how your idea is different from theirs.

3. **Proposed directions of technical components (*15pt*)**: You need to provide a brief diagram of the technical solution. What are the potential components you would like to design? What is the system overview and information flow between the components? You need to list in subsections regarding each component on the potential ideas and implementation plans.

4. **Dataset preparation + plan of experimental studies (*20pt*)**: Please explain the data set you would like to use (including the statistics and sources of the data sets). Please give a detailed diagram regarding the timeline of the research project, including designs and testing of each different technical components and studies.

5. **References (*5pt*)**: please provide the reference list regarding the related works and citations to reflect the related studies.

6. **Responsible contents (*5pt*)**: each student should indicate the contributed proposal contents and task distributions.

Discussions inside the project team and with the instructor are essentially important. Note that throughout preparing and drafting your ideas and proposals, you are all welcome to drop me an email (suining.he@uconn.edu) for any discussion or suggestion. You are recommended to join the office hours to talk about the deliverables with me. The research team members are recommended to set up weekly meetings in order to synchronize the progresses.

While you are preparing your proposal report, you may also follow the similar structure to prepare your proposal presentation, which would be 12 minutes in total and presented by one of the team members. Detailed presentation structure will be provided later.