Advanced Computer Networks and Big Data Fall 2023

Assignment 1 （**Report**）**20 Points** **Deadline: November 7, 23:59PM**

Choose a topic of interest in the field of **Computer Networks**, and read literature **surveys** on your chosen topic. Write a report to introduce **the motivation and objectives of the research in your topic**, **the main challenges**, **existing solutions**, and **open problems**. The literatures you read should meet the following **requirements**:

1) They can be one or more papers, but the total number of pages should be no less than 40.
2) They are written in English.
3) They are survey papers.
4) They are published no earlier than 2020.

Assignment 2 （**Report**）**20 Points** **Deadline: December 5, 23:59PM**

Based on the literature you read in the Assignment 1, select the solution/technique/algorithm… that interests you the most, and analyze the bottleneck of that solution in detail. Then, design your own solution to overcome the bottleneck. Experimental validation is not mandatory, however, it's crucial to ensure that your solution is reasonable and feasible.

Assignment 3 （**Oral Presentation**）**20 Points** **Deadline: December 24, 23:59PM**

Based on Assignment 1&2, create slides and give an oral presentation on your chosen topic.

Report submission requirements:

1) Format requirements: Give your report a title that reflects the subject and scope of your project. Include your name and student ID below the title. Your report should be no less than 3000 words. You need to use the provided template (the URL is at Overleaf Template) to write your report and submit the PDF document. The report should be written in English.
2) Originality: The report should be based on a deep and high-quality exploration of your chosen topic, and it should be your own original work. Plagiarism is not allowed.
3) Well-written: The report should have a clear structure, with sections to make your report more organized. In addition, an abstract that allows the reader to quickly understand the purpose, method, results of your research, and a conclusion that summarizes the main content of your report and restates your arguments are necessary.
4) Report must be the PDF file, and it should be named as assignmentNo.-report-(student ID).pdf. Example: assignment1-report-(student ID).pdf.

Presentation requirements:

1) Slides consists at least 15 pages.
2) Presentations should be 10-15 minutes (absolutely no more than 15 minutes; your instructor will cut you off after 15).
3) Oral presentations can be in Chinese or English, but the slides must be in English.
4) You should be prepared for a relatively fluid presentation style, where your instructor may stop you to ask your questions about your design during the presentation itself (rather than waiting all the way until the end).

5) Your instructor will grade you on a check scale, and will take into account both your content design and the quality of your presentation.