COMP8536 Advanced Topics in Deep Learning for Computer Vision

Semester 2, 2024

Group Project Guidelines

Part of the philosophy of this course is *learning by doing*. You will get to put this philosophy into practice by working on your own (group) project in the second half of the semester. Projects are to be done in **teams of 3-4 students.** Your project should be commensurate with the time and resources available—we are not expecting the outcome of your project to be at the level of a new publishable scientific finding. Rather you (and your team) should demonstrate an understanding of the course material by extending, analysing or implementing an existing method in some interesting and insightful way. We will distribute some concrete project ideas later in the semester.

Your project is worth **70%** of your total grade for the course. This is broken down into three assessable deliverables as described below. Team members may receive different grades if there is evidence that some members did more work than others.

Deliverable 1: Project Proposal (5%)

Due 11:55pm Friday, 20 September 2024 via Wattle

The project proposal is a **2-page PDF** document that outlines what you plan to do for your project. The proposal should include:

- **Title.** Project title (keep short but informative).
- **Team.** List of group members (full name and university ID).
- **Research Question.** What problem are you trying to solve and why is it important?
- **Previous Work.** What is the relationship between what you are trying to do and what people have done previously? What work are you building upon? Cite papers that are relevant to your project (and that you have read!)
- **Proposal.** A couple of paragraphs describing your main idea. A well thought out diagram can sometimes be very helpful in conveying the idea succinctly. *Include the metrics you will use to determine success.*
- **Software and Datasets.** List the software and/or datasets that you will use in. If data is not readily available, then you'll be unlikely to complete the project in time.
- **Other Resources.** Identify other resources that you need for the project, e.g., access to GPUs. Projects for this course should be doable on CPU machines.
- **Timeline.** A list of (concrete and verifiable) project milestones with dates.

Your proposal will be graded on how well is addresses each of the above points. It should also be clearly written and properly formatted and structured.

Remember, you don't need to be too ambitious (for this course). We are looking to see whether you understand the material taught in the course, not whether you can produce state-of-the-art publishable research outcomes. Speak to tutors during the labs or message us through the forums if you are unsure about the feasibility of your project.

Deliverable 2: Video Presentation (25%)

Due 11:55pm Friday, 25 October 2024 via Wattle

The presentation is a **5-minute video** that describes your work. All group members must contribute and, ideally, appear in the video. The video should communicate the key ideas in your work, not necessarily every detail (which we will get from the final report).

You will be assessed on how clearly you articulate your work, including what problem you are addressing, how you went about solving the problem, and your relevant findings. You should make appropriate use of visuals and have a narrative that is consistent with the visuals.

Deliverable 3: Final Report (40%)

Due 11:55pm Friday, 1 November 2024 via Wattle

Your final report should be **4-8 pages** (including references). You can use single or double column format. The report must contain a declaration from each team member with their name, university ID, and a short statement on their individual contributions to the work. If you used generative AI (e.g., ChatGPT) at any stage in the project (including to help with writing the report), then this must be declared.

The final report will be assessed on structure, clarity of writing, technical correctness, appropriate evaluation/experiments, insightful conclusions, discussion of shortcomings, and ideas for future work.

We will provide guidelines on writing papers in computer science, which will help you to structure your report, and a LaTeX primer (for those choosing to write their report in LaTeX) later in the semester.