University of Michigan
EECS 542: Advanced Topics in Computer Vision
Winter 2022.   Instructor: Andrew Owens.

Project proposal information

Posted: Wednesday, February 9, 2022   **Due:** Thursday, March 10, 2022

Please submit your proposal to Gradescope as a PDF file.   Please only submit one proposal per group, and add the other members of your group to your submission.

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1   Proposal guidelines

For your final project, you'll study an area of computer vision in significantly more depth. All projects should involve reading research literature, implementing a computer vision system, and evaluating that system.

- You may work in a group of up to 4 people. If you'd like to work in a larger group, please chat with us; our expectations for your project will be higher.

- This project is open-ended: you can either reimplement a paper, such as the ones we discussed in class, or you can propose a topic of your own. *We highly encourage you to propose your own project*, since you'll probably get a lot more out of the experience!

- If you are proposing a new project, you should say: 1) what problem you are addressing, 2) why it is interesting or important, 3) what methods you'll use to solve it, 4) how you'll evaluate your work.

  If you select an existing paper, please describe in more detail what you'll do. For example, you could: 1) briefly describe the algorithm in the paper, 2) describe what you will implement, and 3) say how you'll evaluate your model.

- Your project proposal should be short (less than one page is fine).

- Projects that overlap with your research (or your side projects) are generally fine.

- You don't necessarily need to use visual data for your project. You can also apply techniques described in the course to other signals (e.g. audio, LIDAR, medical imagery, etc.).

- There is a rolling deadline for the proposal, starting on February 24, until March 10.

- We unfortunately cannot provide GPU resources to groups, beyond what is available on Google Colab. Please keep this in mind when proposing a project. You may simplify your models (e.g. if you are reimplementing a paper, by training them on less data) to help address this.

- Besides Colab, you can consider using GPUs from CAEN. You may also be able to obtain free credits for cloud computing (e.g. Google Cloud, Amazon Web Services, and Microsoft Azure. However, this isn't recommended, since it takes a lot of work to set up.

- We encourage you to come to office hours to discuss your project ideas, so that we can help steer you toward relevant research literature. We may also point you to materials when we grade your proposal.

- The proposal will be worth 5% of your final project grade (much less than the report or the presentation).

- The report and presentation will be due in the finals period.