Final project proposal
COMP4102

January 18, 2021

Your final project gives you the opportunity to freely select your topic of interest among computer vision problems. You can start working on your project after your proposal accepted by TAs. If your proposal got rejected, you would have a week to work on it and resubmit it.

The purpose of the proposal is two fold:

1. Writing your ideas down forces you to organize your thoughts about the project.
2. It gives us (instructor/TAs) the ability to verify your plans are of the right scope (also offers the ability to offer suggestions and help).

Please create a public GitHub page for your project (to do this you will need to have or create your own GitHub account). Your project GitHub page should contain the following sections and content (simply modify the README.md file).

Title: Please provide the title of your project, followed by the names of all team members. There should be at maximum 2 members for each project. Teams may include up to 3 students if the project is large enough.

Summary: Summarize your project in no more than 2-3 sentences. Describe what you plan to do and what vision problem you will be working on. Check *final project ideas* file in cuLearn for suggested project ideas. You can choose any idea other than these examples.

Background: If your ideas coming from existing research you should refer to the publications and describe what you are doing differently.
Notes: If your project involves taking advantage of computational speedups available on your iOS device - such as box filters, inverse composition in the LK algorithm, NEON intrinsics, OpenGL ES, Accelerate Framework, binary descriptors such as FAST and BRIEF, etc. - describe their application and why they are necessary in more detail. If your project involves something around using your device in a mobile fashion - for example virtually rendering an object in your room - then describe what components of your solution are unique to a mobile device (the high-speed camera, GPS, IMU, Gyro?).

The Challenge: Describe in a few sentences why the problem is challenging. Could you solve your problem using just a few pre-existing functions in OpenCV? Try to state explicitly what you are hoping to learn by doing this project? A flow chart or visual depiction of what you are trying to do would be good here.

Goals and Deliverables: Describe the deliverables or goals of your project.

- In a couple of sentences separate your goals into what you PLAN TO ACHIEVE (what you believe you must get done to have a successful project and get the grade you expect) and an extra goal or two that you HOPE TO ACHIEVE if the project goes really well and you get ahead of schedule.

- Describe what success looks like and how it can be evaluated. For example, if your project is to measure the velocity of a baseball being thrown in front of an iOS device, how will you validate that it works? Screen shots of the App in action? A speed benchmark run across a variety of videos? A live video of the app in action? It will NOT be enough to simply provide the Xcode project - you will need to provide evidence that you have achieved your goal.

- How realistic is it for your team to get what it needs to get done within the allotted time? Remember you only have a few weeks to get this project completed.

Schedule: Produce a schedule for your project. Your schedule should have at least one item to do per week per participant. List what your plan to get done each week from February 6st until the 14th of April deadline. You would present your projects in the class in the last week of the semester. You should have some results by March 31.

Submission: Submit your proposal in PDF format in cuLearn. The number of pages should be at least 2 pages and not exceed 5 pages.