The purpose of the independent project is to give you an opportunity to learn on your own, to learn and explore aspects of Computer Vision, follow your passion, mess around with stuff and see what works and what breaks, and to develop body of work that you can talk about with recruiters.

Some students learn best working individually. Others work best in teams. This semester pairs of two are allowed.

Topics:

For a final project select a project related to video, stereo, or multi-camera processing. The project should be on a similar level as a homework assignment, but you will have more time to work on it, and it should have a research or background section to it. I am open to options, and try to be a reasonable professor.

Project can run the full spectrum of degrees of difficulty. In some cases students try to do a very challenging project, and execute it only nominally well. On the other extreme, some students try to do a very basic project, but do it very well. The middle ground is also possible. The degree of difficulty is considered when grading.

Parts:

The project should have a code component and a written write-up component.
- **The code component:**
  I expect you to find code on the internet, write code from scratch, or some combination of the two. I expect the code to be well documented, with good variable names, and should be easy for me to understand when I read through the comments. Single letter variables named i, j, and k are not descriptive.

- **The written component:**
  The written component should include some or all of:
  i. Abstract (big paragraph).
  ii. Introduction (overall description).
  iii. Background materials – When was the algorithm you implemented invented? Did you invent it? Who/what/where/when… did the algorithm come from. Who has used this in the past. This should be a minimum of three pages double-spaced with references and proper citations.
  iv. Approach Used.
  What reading gave you ideas about how to solve the problems? What was your approach?
  v. Experiment – what did you do? What algorithm did you use?
  vi. Discussion and Analysis – Describe the impact of the different parameters on the results. (Results and Analysis might be combined into the same sub-section, as appropriate.) What did you do? How did you modify or use the technique?   What did you learn?
  vii. Results – What results did you get? What did you find? Did you do any sensitivity analysis? What worked? What went wrong?
  viii. Conclusions – what did you learn overall?

(continued)

Deadlines: Some students are mature and self-motivated, and can get the work done easily. Others need deadlines to work to. So, we set some deadlines to help those that like to procrastinate.

Project Proposal:
5%, assures that you have selected a project, and a team partner, and are motivated to move along.

Checkpoint 1:
5% This should at least have the background material section of your final report in it, and some code to show that you are making progress. What has been done before?

Checkpoint 2:
5% This should be a progress report about how well you are doing on the project, or a rough draft of your final submission. Show some intermediary results.

Presentations:
10% The last four classes. You will describe what you did to the rest of the class, and try to explain the problems you faced, and your solutions.

Recruiters will ask to see what presentations you have given. So, this builds up your collection of presentations. Expect that a recruiter will want to look at this.

Your font size is important. Use at least a 24 point font, so that it can be seen from the back of the room. Use high contrast, to assure it is visible. Use images, with annotations, to see what is going on.

It should have sections which mimic your report: abstract, introduction, background, your experiments, your results, and what you can conclude.

Final Submission:
75% The final report, as stated above.

The deadlines for each part are on MyCourses.
Presentations may occur before your final written report.