

CS 5600/6600: F20: Intelligent Systems

Assignment 9: Project 2 Proposal

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Introduction

There are no reading or coding components in this assignment. I'd like for you to focus your thinking on your final project (i.e., project 2). Write a 2–3 page proposal for your final project. Your proposal should be submitted as PDF and clearly and succinctly address each of the following points.

1. Relationship to CS5600/6600

State what you intend to do and how it's related to this class. If this relationship is not clearly articulated in your proposal, I'll return it to you and ask you to re-write it. Let's not waste each other's time.

2. No Project Recycling

You may not recycle a project you've done or are doing for a different class or a professor. If you're working on some project for a different class, you shouldn't use it for this class. I had to deal with a couple of nasty cases of blatant plagiarism in this class before related to students who submitted the projects that they did or were doing for different classes or for their major professors.

Will I make exceptions? Of course. If you're working on a project and want to add to it a CS5600/6600 component you've learned, I'll definitely accept it. For example, you want to include a ANN/ConvNet (or an ensemble thereof) to your project or you've already tried several ConvNets on your project and you want to try random forests. Another example – you're working on a tutoring system and want to add an ELIZA-like NLP component to it.

In case you're adding a CS5600/6600 component to an existing project, you'll have to describe your project and specify your major professor with whom you're working on this project and what you expect this component to do for the project. It would also be useful (primarily for you) to discuss it with your major professor before writing your proposal.

3. Replicability

Remember that, when grading your project 2 submission, we'll not only look at your source code but also run your final deliverable. Therefore, you shouldn't put too many third-party dependencies that are not straightforward to install. If a third-party product can be installed through `pip` or `apt-get install`, that's fine. If it's something more complicated (e.g., a proprietary simulator or a game engine), I may have to ask you to think of a different project. In short, as in any other branch of science, your deliverables for this class must be replicable.

4. Resources

State the resources you intend to use to complete your project. For example, if you want to train a classifier system on some data, clearly specify the URL (or some other resource) where the data is available.

State if the data is curated (i.e., labeled and classified) and can be downloaded. I recommend that you use only publicly available datasets.

Don't use private datasets, because we won't be able to replicate your experiments. Nor would I recommend proposing a project for which you need to collect and curate your own data. Four and a half weeks are not sufficient time for creating a well-curated dataset. For example, each of the datasets you're working with on project 1 took 2–3 years to create.

Don't propose to do anything with MNIST. MNIST is great for weekly homework assignments to learn new concepts and techniques on, but it's a toy dataset.

5. Deliverables

Clearly state the list of deliverables. For example, you can state that you'll train an ensemble of ConvNets to do X (e.g., play some Open AI Gym game) or train a random forest to do linear regression on a dataset Y and submit your source code, README, and a performance report with your brief observations and conclusions.

If you're a graduate student and want to do research and write a publishable paper, this will be your only deliverable. In your proposal, you'll have to relate your paper to some topic discussed in this class. I will accept survey papers on a specific topic.

6. README

If you're doing a programming project (and I expect most of you to choose this venue), you'll have to write a README on how to run your project and all the dependencies that must be installed to run it.

Take this README close to heart, because there won't be any time for scheduling virtual appointments after the project's due date. I simply won't have any time for them, because I have to meet the firm final grade submission deadline. Your code should run out of the box and according to your README.

7. Schedule

Write your project's schedule. Identify several benchmarks and state how you'll achieve them. This can be as simple as a table or a list with dates and benchmarks. Several students told me in the past that writing the project's schedule made them change the scopes of their projects, because they realized that they were too ambitious.

There's life after CS5600/6600: F20. I firmly believe that if you're interested in a topic, you'll find time to come back to it after you're done with this class.

8. Risks

Every project has risks. I repeat – *every* project. Identify your project's risks. Your school schedule, your work schedule, your family obligations – these are important factors to keep in mind when you're writing your proposal.

I want you to think about what may prevent you from completing your project. Don't bite off more than you can chew. Thinking of impressing anyone is, in my humble opinion, a misguided motivation. I can tell you from my experience that this very mind set is a serious cause of trouble

for some students (and not just students). Changing the project one or two weeks before the due date is too late.

9. What to Submit

Save your final project proposal `cs5600_6600_f20_project2_proposal.pdf` and submit it in Canvas.

Happy Thinking and Writing!