



Capstone Project Proposal

Lecture 9



Outline

- Project Proposal
- Proposed Schedule
- Elevator Pitch

Components of DSC 180 Project Proposal

- **Proposal:** written introduction to the proposed project (1-2 pages)
- **Schedule:** Description of the main components of the project, who will do each task and when.
- **Elevator Pitch:** A succinct, engaging, verbal summary of the project (1-3 minutes).

None of these are set in stone. They are merely a *starting point* to convince your audience that you have a realistic understanding of your plan.



Project Proposal



Written Project Proposal

The proposal should:

- State the problem being investigated, for both a general audience (broad) and a domain expert (specific).
- Give the reader enough context to convince them the problem is interesting and worth looking into.
- Provide enough detail for a domain expert to understand whether the proposal is reasonable and realistic.
- Specify the project output (report/paper, website, a product with specs).

Anatomy of the Written Proposal

The proposal shares much in common with writing an introduction:

- A broad problem statement and context to justify the investment in spending 10 weeks on the project.
- A narrow, careful problem statement for the domain expert (likely comparing the approach to ones used on similar problems).
- A statement of the output (a result in a paper; a system/product).

Anatomy of the Written Proposal

The proposal *also* includes elements that support its probability of success:

If data is needed, you must justify the following:

1. You can obtain the data.
2. The data contains the information needed.
3. The data is of sufficient quality.

This may include citing previous work that used the dataset, a data dictionary and API documentation, or (preferably) a preliminary EDA on the data itself.

Schedule

Anatomy of a Schedule

The schedule included in the proposal is:

- A 6 week schedule with weekly goals/tasks for executing the proposal.
- A delineation of responsibilities for each task among group members.

The schedule:

- clarifies if the project is reasonable in the given time-frame.
- will evolve along with the project; it assures everyone knows what each other is doing, for tighter collaboration.

Comments on the Schedule

- Why a 6 week schedule in a 10 week quarter?
 - You will experience setbacks and hiccups working on *everything*
 - Tidying up and polishing your work always takes a long time!
 - If you work efficiently, you can always add more tasks (this is rare, though!)
- How specific should the tasks be?
 - Others in your group (and your mentor) should have a good idea of what to expect from the description.
 - The more specific the description, the better you will know what to expect!
 - You should *never* have the same task listed across multiple weeks (if so, it's not specific!)
- How should we divvy tasks up among group members?
 - Different tasks that can be worked on in parallel *should be*. Specialize.
 - Don't specialize tasks so much that you can't help your partner with details!



Elevator Pitch



What is an Elevator Pitch?

- Usually between 1-3 minutes; summarizes the proposal.
- Very quick *purley verbal* introduction to general audience
- Include very little detail. Focus on context and motivation!
- Typical anatomy of a short presentation:
 - Context: explain why your work is significant.
 - Complication: tell what we know and don't know.
 - Question: clearly state the question that addresses the problem
 - Hypothesis: propose a clear, testable hypothesis that will advance our understanding

How to create an Elevator Pitch

- Use slides to help organize your pitch:
 - Create 4-5 slides, each with a *single* idea
 - Each slide contains a title (statement of the idea) and a single drawing/explanation.
- Do **not** use the slides in your presentation (purely verbal!).
- Talk through the thoughts that each slide represents, as if explaining them to the listener.
 - Do **not** write a script and memorize it! That's not engaging for the listener.
- The sign of a good pitch is your ability to adapt it into a conversation.

Tips for giving an Elevator Pitch

- Practice talking through your slides *repeatedly*, trying to vary the way you explain each thought.
- Practice giving the pitch to group members. Let them interrupt you with questions. Can you evolve the pitch into a conversation (restarting the pitch after answering the question)?
- Try standing while giving your pitch; speak slowly and enunciate!
- Practice, Practice, Practice

All pitches will be given individually, as it's important for everyone to practice!