1 Introduction

As we work our way through the rest semester, we will be working continuously on a proposal for a senior thesis idea. Each of your sections in your final proposal will build toward the final goal of the project but writing each part can be a deliverable in itself. To help create this concise, informative and illustrative proposal, we will be spending time to write each section, piece by piece.

Specifically, each week you will tackle a particular section of the proposal document, participate in peer editing exercises, and revise your written content, before proceeding to the next section of the proposal. This will allow you to determine the best ways to describe your ideas as they build on each other for your senior proposal and to ensure you complete a carefully written document.

You will use the same repository for each portion of the assignment. As you work on different components of your proposal, you may find it useful to utilize a proper GitHub Flow. Spend some time during the class today to explore GitHub flow and concepts such as branches, pull requests, and merges. You can begin your exploration by reading Understanding GitHub Flow. Then, you can practice by following the steps outlined in the GitHub flow guide.

Accessing the Assignment on GitHub

To access the proposal assignment, you should go into the # labs channel in our Slack team and find the announcement that provides a link for it. Following this link you should accept the proposal assignment and see that GitHub Classroom created a new GitHub repository for you to access the assignment’s starting materials and to store the completed version of your proposal document. Once you download the starting materials using the clone command you may begin working on your \LaTeX file locally. Unless you provide the instructor with documentation of the extenuating circumstances that you are facing, not accepting the assignment means that you automatically receive a failing grade for it.

2 Summary of Deliverables

Your work in each section is to be seasoned with the spices of project motivation, causing the aromas of relevance in scholarship to materialize and drift freely to the reader; an effort to ensure a continued appetite for fascination and excitement.

You are to write a document containing a proposal for the completion of your research idea. The goal of the proposal is to relay your novel idea to your future committee and other readers by motivating it properly, placing it in the context of existing work, describing the specific details of how you plan to accomplish the goals of your proposed project, and carefully considering the feasibility of the project and the timeline of its completion.

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The final proposal is to contain the following sections, although others may also be required for your particular projects.

- **Required sections:**
  - **Title:** An informative and exciting title for your proposed project.
  - **Abstract:** An overview of your project where you include some of the highlights of your motivation, method, anticipated results, discoveries and conclusions. Since this section is only about 250 words, you will not have much space to include all these elements in a lengthy discussion. You will have to be very brief, yet meaningful in your discussion of the associated parts of your work. It is often easier to write the abstract once all of the other sections of the proposal have been completed.
  - **Introduction:** All written projects begin with an introduction section where the main ideas of the work are introduced and contemplated. The reason for why the reader is to care about this connection is addressed while enriching the reader’s knowledge about the problem and why it should be solved. Here you will also spend time working to develop support for your novel idea and to motivate your approach in light of the existing field relevant to your proposed work.
  - **Related Work:** In this section, you are adding relevance to your work by situating it in relation to other studies, lines of thinking, research projects, methodologies, etc. In your introduction, you will briefly situate your work within the larger body of existing knowledge. In the Related Work section you will explain in more detail what is already known about your research area. To make this discussion, you will be citing peer-reviewed literature, existing software projects, and common knowledge in the field (from the books) to allow the reader to understand the significance of your proposed work.
  - **Methodology:** In this section you will inform the reader how you intend to prepare some solution or to reach your goal of research. For instance, all steps that you take to complete some part of your work ought to be described so that one is able to re-create your steps and to arrive at the same conclusion. Write this section as if you are writing it for yourself – if you have these notes available to you, then you will not forget how to perform different types of research where the approach to the research is similar in the future. Specify any relevant algorithms, software tools, programming languages, etc. that you will utilize for the completion of your project. This section should also include a demonstration of feasibility.
  - **Evaluation:** This section will describes the process to be undertaken to validate the proposed work using applicable evaluation metrics. It could include evaluating performance of an algorithm, statistical analysis of data, user study to be conducted, etc. The evaluation plan must be feasible, possibly including multiple evaluation strategies and a backup evaluation option.
  - **Timeline:** In this section, you will order each part of your work and describe when the part will be completed. Your timeline should be detailed and broken down into logical steps. You will provide a starting and ending time for each of these tasks, in addition to some type of indication about when the entire project should be completed. Be sure to not be too optimistic in how long you imagine each task will take to complete.
instance, some tasks may take time and be out of the researcher’s control to complete. For these types of tasks, we are aware of the potentially time blocks necessary to complete the task. Please keep in mind that your timeline should refer to Spring 2021 semester and your final project should be fully completed and your thesis document should be fully written by April of 2021.

**Conclusion:** In this section, your proposal document will draw to a close. Here you will remind the reader of the advantages of your proposed idea. You will discuss how the outcome will be a benefit and describe how your proposal is feasible at Allegheny and can actually be completed in the time frame that you specify.

- **Minimum Length:** 10 pages. If you have graphics you will need to use more pages, large graphics, especially, will not count toward the minimum page requirement.
- **Bibliography:** You are to use a minimum of 12 references in your proposal.
- **At least one diagram (e.g., flowchart) created by you.** Reading some of the detail that goes into one’s proposal may be complicated and so the addition of a graphic to describe will be a great help to the reader. Remember, you want your readers to completely understand your work since they represent those who can offer you an incentives to complete the project on time and without failing.
- **At least one table or graph to enable the reader to understand existing work and/or your methodology.**

**Peer Review**

Each week you will participating in a peer review activity during the class session, where each individual is to read the work of another and to offer constructive feedback. To help you to be constructive and effective during this editing task, you will be following questions such as those below. The actual questions, which will differ from section to section, will given to you during the assignment of the peer editing deliverable. You must have each section of your proposal read and edited by at least one person in this class, and you must read and edit at least one peer’s proposal sections other than yours. To offer your feedback to your peer, you will submit your feedback (the answers to the leading questions) written in a proper Markdown language into the peer’s issue tracker on GitHub. For this, you will have ensure that you have access privileges from your peer.

- The writing is free of typographical and grammatical errors.
- The writing in each section has a logical flow.
- Each section contains an introductory and summary statement.
- Proper transitions between sections are present.
- The writing in each section does not contain non-professional language and omits technical jargon.
- The document includes some visuals such as diagrams, flowcharts, etc.

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• The document is properly formatted (uses the given template, does not contain unneeded white space, etc.).

• The motivation and the arguments in the paper are well cited.

• There are sufficient recent citations present.

• The citations include a diversity of sources.

• The writing contains sufficient detail to allow an entry-level researcher to understand its premise.

Your produced writing will also be reviewed by a technical leader and the instructor.

3 Evaluation and Due Dates

You will receive notices in class with the assignments and the deadlines of each section’s deliverable. The failure to complete and submit drafts of each section by the stated due date will result in a reduction of your proposal grade. Failure to participate in peer editing process will result in a failed participation grade for that activity. The final proposal document that has gone through multiple iterations of peer review and revision is due on April 30\textsuperscript{nd} by 7 PM 2020.