

COMP 430/530 – Fall 2020 – Project Proposal Guidelines

This document outlines the format and sections of the project proposal.

Format and Contents: The average length of the proposal is 3 pages, written in a standard font (Times New Roman, Arial, etc.), size 10-12, single-spaced, and with standard page margins on the sides (1 inch). The proposal should be no shorter than 2 pages and no longer than 5 pages. Exact length may vary. Writing longer does not mean a higher grade.

Images, figures and tables are encouraged. Sometimes a figure or table is worth a thousand words. Make sure they are appropriately sized (not too large and not too small). The proposal document should look professional throughout.

Proposals should follow the section-by-section template given below.

Bibliography (list of references) and appendices are not included in the page limit. There are no limits to their length. However, you cannot use them for explaining core aspects of your project. You should only use them for supplementary material that may help the reader's understanding e.g., screenshots, mathematical derivations, or list of survey questions. The proposal should be self-contained without the bibliography and appendices.

Grading: Proposals will be graded out of 25 points. The section-by-section allocation of points is shown below in the project proposal template. All members of the same group will receive the same grade.

All work that goes into the proposal should be group members' own work. **Plagiarised proposals will receive 0.**

Relevance: The relevance of your project to privacy and security should be clear from the proposal. For projects that are unrelated, the instructor reserves the right to reject the proposal or to ask that the proposal be "substantially revised", both of which are subject to a major grade penalty.

Submission: Please submit your proposals through Blackboard. Please have only ONE group member submit the proposal for your group to avoid duplicate submissions or different versions of the same proposal being submitted.

Make sure your proposal lists the names of all group members either at the top or as a header.

Good luck and enjoy!

***** START PROPOSAL PAGE LIMIT *****

PROJECT TITLE

INTRODUCTION [3 pts]

Start by introducing the general area of your project. Is it related to smartphones, mobile banking, machine learning, online education, Internet of Things, biometrics, etc.? Highlight the popularity and importance of that area. This section is typically 1-2 paragraphs.

PROBLEM STATEMENT [6 pts]

Describe in detail the specific problem your project will be studying.

After describing the problem, you also need to convince the reader that:

- the problem is interesting and/or timely – give some motivation
- the problem is sufficiently challenging – it requires 2.5 months of work to solve it
- the problem has intellectual value – it is not simply busy work
- the problem will require you to build an in-depth understanding of a certain aspect related to data privacy and security – it is not something you can solve otherwise

TECHNICAL APPROACH [5 pts]

The title of this section can be “Technical Approach”, “Proposed Solution”, “Technical Details”, etc. depending on what is appropriate in the context of your project.

This section should contain the majority of the technical material in your proposal. The key questions this section should answer are “**how**” and “**what**”: How will your project study the problem you stated in your Introduction section? What will your project do and achieve? Can you convince the reader that your approach is suitable and appropriate?

Describe what technical methods you are planning to use. You do not have to give specifics, but you should be educated regarding the general approach, i.e., you should do some preliminary research and educate yourself before writing this section. You should demonstrate, through your writing, that you are aware of the main concepts and developments. For example, you can say: “To address X, we plan to use differential privacy. Differential privacy is appropriate in this setting because ...”. You need not give the specific methods or pseudocode you plan to use – which is probably undecided at the project proposal stage.

Also, are there any open source libraries or tools you will use? You are encouraged to use such resources as long as you give them appropriate credit.

While there is no page limit for this section, it should typically be at least $\frac{1}{2}$ - 1 pages in order to adequately present the technical parts of your project.

EVALUATION STRATEGY [2 pts for criteria + 3 pts for datasets]

1. Quantitative evaluation criteria: How are you going to quantitatively evaluate your project? What are the most relevant evaluation criteria: accuracy? speed? What will be your metrics under each criteria?

2. Datasets: Which datasets will you be using in your evaluation? Where and how did you find the datasets?

This section should be **concrete** and **resourceful**. Please spend time and effort **before writing the proposal** to ensure that there is enough data to evaluate your project. A common mistake in project proposals is to not have a concrete idea for finding datasets, or the proposed data are not suitable for evaluation. For example, the project needs to be evaluated with 100,000 data points, but the proposal describes a strategy with only 100 data points. Another example: if the proposal says “we WILL find data that has property x, y, z”, then that is a bad sign because the project depends on you finding that data and it’s not certain that you’ll be able to find it. Thus, at this point, you should either HAVE the data already or know EXACTLY how you will get it. Points will be taken off if metrics and/or datasets are vague.

PROPOSED DELIVERABLES [2 pts]

A short section listing the deliverables you will create and submit by the end of the project.

Deliverables depend on the type of project. Your proposed deliverables will be graded based on their suitability to your project. Make sure you include all necessary deliverables and avoid any unnecessary deliverables. Some examples:

- If you are performing a human survey, your deliverables will likely include: (i) the survey itself, (ii) responses you collected as part of your survey, and (iii) a project report in which you perform statistical analysis on the responses, critique the results, and arrive at conclusions.
- If you are creating a mobile app or website, your deliverables will likely include: (i) source code of your app/site, (ii) an installation guide, (iii) a Powerpoint presentation and/or video recording for demonstrating the use of your system.
- If you are proposing a new algorithm/protocol, your deliverables will likely include: (i) source code of your algorithm/protocol, (ii) a project report in which you describe how/why this algorithm or protocol is used, what it does, what are the design decisions, what formal privacy guarantee it achieves, and (iii) evaluation results.

TENTATIVE TIMELINE [4 pts]

Give a tentative timeline for your project. Final deliverables of the project will be due around January 18th (during finals week). This gives you roughly 2.5 months. You should plan the upcoming 2.5 months to ensure week-by-week progress.

Include a table or Gantt chart to show your weekly timeline throughout the semester. Divide your project into sub-tasks. Specify which group member will work on which task. Example:

Task	Week 1	Week 2	Week 3	...	Week N
Data pre-processing	John, Jane				
Coding the server software		John	John		
Coding the client mobile app		Jane			
Testing client-server communication			John, Jane		
...					
Writing final project report					John, Jane

You may or may not include a one-paragraph justification for the time allocation, e.g., why is task X assigned longer time than task Y? If a particular group member has specific interest, background or expertise in one task and therefore they are primarily executing that task, you may note such special circumstances here.

***** END OF PAGE LIMIT FOR PROPOSAL *****

BIBLIOGRAPHY [0 pts]

List of references you used or cited when preparing your project proposal. The bibliography does not count towards the page limit. Any citation format is accepted (MLA, APA, Chicago, etc.) as long as you are consistent.

You will not receive points for getting the bibliography right. However, up to **-5 pts penalty** can be enforced if there are blatant errors in the bibliography, such as wrong links, citation inconsistency, missing citation, etc.

APPENDICES [0 pts]

Appendices are optional. You can have one or more appendix sections (name them Appendix A, B, C or Appendix 1, 2, 3).

Appendices do not count towards the page limit. They should be used only for supplementary material that may help the reader's understanding, but not for explaining core aspects of your proposal. For example, appendices may include screenshots, mathematical derivations, or list of survey questions. However, the proposal should be self-contained and understandable without the appendices.