

MECH-4500-60 Artificial Intelligence & Machine Learning: Proposal Presentation

Assignment Overview

This assignment asks you to present your intended work and plan in class in front of your colleagues and instructor to help them understand the work you did, the challenges you faced, and the outcomes you achieved. In this assignment you will experience the art of public speech and presentation.

Presentation format: A slideshow presentation in the Microsoft PowerPoint format. The slideshow must be electronically deliverable to the instructor.

Reporting Requirements

Your project report **MUST** be submitted electronically via LMS as a single PowerPoint file, with the following naming convention: LASTNAME_Firstname_GENG4500_proposal_presentation_YYYY.ppt(x) where YYYY is the year for the course. For example, RAHIMI_Afshin_GENG4500_proposal_presentation_2024.ppt(x). **The presentation files must be received by the instructor no later than 5pm on the day noted on the course syllabus. Late submissions will not be accepted.**

Assignment Goals

This assignment has three interrelated goals:

1. To help you develop and ability to deliver an effective presentation by applying the elements of an effective speaker in four main areas namely voice projection, body language, content as well as organization of the content.
2. To help you develop an ability to analyze and listen to conversations in various interactive, social, professional and academic situations.
3. To help you identify the main idea and essence from lectures and talks.

Presentation Requirements and Structure

The final presentation should be 10-15 slides maximum in length and should be deliverable in 10 minutes of presentation, followed by 5 minutes Q&A period. It is important to note that you will get evaluated by your instructor and GA. The presentation should have clear and legible style and formatting. Any references used must be in FRCS format. Use of Audio/Video in the slides can cause difficulty during presentation so be mindful of that. The presentation should be in .ppt(x) that can run off-line without access to internet. it is recommended that your presentation includes the following sections with the following sub headers:

1. Cover Page

A clear cover page that includes your project title, your name, your affiliations, date, etc.

2. Introduction

Introduce yourself and your background a little bit before getting into the topic.

This introduction should be designed to interest your reader in your topic and proposal and provide some historical context for your project. You need to identify the problem you are trying to solve and how it came across your mind. At the end of this section, you need to transition to the literature review.

3. Literature Review

In this section, you need to provide a background on the problem and how others have tried to solve the same or similar problems. You also need to identify the strengths and weaknesses of the methods others have used and how you hope and plan to address those issues. This is the section where you need to use your in-text citations most and have an appealing flow in the context. There must be at least five (5) peer-reviewed references in this section (Wikipedia is not academic and peer-reviewed, so not many of the blogs and web pages are).

4. Methodology

In this section, you should discuss the methods and sources you will use to conduct your project, including specific references to sites, databases, key texts, or authors that you feel will be crucial to your project. **You must use Python as the programming language of choice.** Make sure you have the following section in your methods section:

- Gathering data
- Preparing that data
- Choosing a model
- Training
- Evaluation
- Hyperparameter tuning
- Prediction.

For more information on these steps and how you need to incorporate them, you can either ask me or check [this weblink](https://towardsdatascience.com/the-7-steps-of-machine-learning-2877d7e5548e) (<https://towardsdatascience.com/the-7-steps-of-machine-learning-2877d7e5548e>).

5. Timeline

Include a timeline for your project, using the dates from the syllabus as the foundation for your plan: In addition, set up certain milestones (by day or by week) that you will accomplish to keep yourself on track; it should reflect some awareness of the demands of your time outside of class, as well as the different stages in the process (going to the library, taking notes, going to the writing center, reviewing sources, etc.). You may also want to include other notable time commitments (significant midterms, a trip to visit family, etc.). This needs to be in a [Gantt Chart Form](#).

6. Conclusion

In your conclusion, address the "So What?" of this project. That is, what are you hoping to achieve and why does what you are investigating matter as more than an academic exercise? Why should your audience want to read it? Why does it matter?

7. References

You need to have at least 5 credible sources. Using Zotero is strongly recommended as it can save you tons of time and make sure you are doing your citations correctly and efficiently. You'll also need to have references section at the end of the proposal, with the citations in FRCS format. Any in-text citations should also follow FRCS guidelines.

Evaluation Criteria

Please check the assignment's rubrics for evaluation criteria.

Useful Resources

You can use the following resources to familiarize yourself with the process and tools to help you accomplish more in less time:

a. How to give a killer presentation

<https://hbr.org/2013/06/how-to-give-a-killer-presentation>

b. Zotero for citations

<https://www.zotero.org/>

c. Dr. Rahimi's YouTube channel

<youtube.com/@arahimi>

Documents Checklist

- ☐ Cover page is included
- ☐ All sections are included
- ☐ In-text and Bibliographies are included and are in FRCS format
- ☐ Number of slides is within requirements and presentation can be delivered in the 10 minutes allocated
- ☐ All slides work properly without the need for internet connection
- ☐ Background is clear and font is legible, and all slides have slide number
- ☐ All file naming conventions are adhered to
- ☐ Effective presentation resource is reviewed