Project 4
Choose your own adventure

Description
For this project you have three options, outlined below. For options 2 and 3, you may elect to work individually or with a partner of your choosing. Option 1 should be an individual project. Regardless of the option you choose, each project will have three components:

- Proposal: Due Monday November 13. Which option you choose, and the underlying element. This can be communicated to me verbally, or via email. If you are particularly excited about a specific element (book, module, algorithm), communicate your choice to me sooner rather than later as no two students/groups can pick the same topic.
- Report/Paper: Due Monday December 4 in Gradescope.
- In-class presentation: either Wednesday December 6 or Friday December 8. The presentation will be brief, between 5-8 minutes depending on the number of presentations we have.

Option 1: Sci-Fi Book Review

One of the learning outcomes for this class is for you to be able to engage in current ongoing discussions of algorithms, ethics, and society. For this option, you will choose and read a science-fiction book, and then write a report. The book you read should be fiction, and should have technology as a major theme. Some ideas for books:

- *The Fountains of Paradise* by Arthur C. Clarke
- *Kalara and the Sun* by Kazuo Ishiguro
- *Plum Rains* by Andromeda Romano-Lax
- *The Mother Code* by Carole Stivers
- *Brave New World* by Aldous Huxley
- *Noor* by Nnedi Okorafor

You may choose other novels as well, which will require my approval to ensure it's in the right spirit. Whether your book choice comes from this list or not, you must inform me of your book choice through the proposal - no two students will be allowed to review the same book.

Your report should have the general form of an academic paper, such as having a thesis and formal citations. You should consider the following topics when drafting and writing your paper:

- What is the book trying to convey: a warning? an optimistic future? something else?
- What ethical ideas are raised through the text?
- Compare the concerns raised in the book to the ideas we discussed in class. In what ways are the issues in alignment or not?

Your presentation should be a brief overview of the book and the ideas from your paper.

Option 2: Missing Module

Is there a topic that we didn't get to in this class which interests you? For example, some module ideas I considered but did not end up including are *surveillance, privacy, gaming,* and *military applications*. This is your chance to explore that topic in detail and propose how it could be worked into a future iteration of this class.

Propose a module (from the above list, or one of your own choosing). No two individuals or groups will be allowed to have the same topic.

Your report will have the following components:

- A description of the module, including themes and relevance to a course called *algorithms, ethics, and society*.

- A list of readings or other materials (with formal citation), with a description of each one. Think of this as an annotated bibliography.
- Optionally, an idea for an assignment related to the module.

Your presentation should describe your module and the relevance, and describe some of the readings or materials you included.

Option 3: Technical Deep Dive

For those of you who wished that we had more time to learn about the technical details of the algorithms we discussed in this class, this project is for you. For this option, you will choose a specific algorithm and a corresponding peer-reviewed article that details the algorithm. The algorithm that you study might not be *exactly* what we talked about in class, due to limitations on what industry makes public knowledge. Examples include:

- The COMPAS Recidivism Algorithm
- A specific Natural Language Processing (NLP) algorithm of your choosing
- Ranking algorithms such as PageRank
- Recommendation Algorithm(s) such as those used by YouTube or in advertising
- An algorithm that might be used in wearable tech to monitor heart rate.

Propose an algorithm (from the above list, or one of your own choosing). No two individuals or groups will be allowed to have the same topic.

Your report should focus on at least one peer-reviewed published article, and may include others as supporting references. The audience for your report is your classmates (a student who has taken CSC-207). Your report will have the following components:

- An overview of the article, describing key ideas and how the algorithm works in your own words.
- An analysis of how the algorithm relates to the topics of our course. How is (or how potentially could) this algorithm used? What considerations should we take when we apply this algorithm?
- A formal bibliography in APA or MLA style.

Your presentation should describe your paper and algorithm, and outline the results of your analysis.

Learning Outcomes Completion of this assignment will contribute to your ability to fulfill the following learning outcomes:
5. Identify the impact of different technologies on various identities.
6. Identify strategies for creating more equitable and inclusive technical environments and software for diverse identities.
7. Critically anticipate adverse technology outcomes.
8. Engage in current ongoing discussions of algorithms, ethics, and society.
9. Understand advanced algorithms in the context of their application(s).

Criteria for Success Assignments are graded on a Satisfactory/Not scale, which I hope encourages you to marinate in the learning rather than being overly concerned by grades. I will ask for further revisions of any assignment that receives a grade of Not Satisfactory (*NS*). Assignments that meet the following criteria will be graded Satisfactory (*S*):

- Proposal is communicated verbally or by email by the stated deadline
- Paper/report is typed
- Spelling, grammar, and organization do not significantly distract from the ideas of the paper/report
- Citations are used properly with APA or MLA style
- Presentation is delivered coherently and covers major themes from the report
- In the case of option 1: The paper includes a thesis, and supporting evidence is used to support the thesis. Evidence from course material is used to support claims.
- In the case of option 2: Description includes themes and relevance to our course. The list of readings includes descriptions of each item, and items include a variety of types of sources (academic papers, chapters from books, news articles, etc)
- In the case of option 3: The main paper is an academic peer-reviewed article. The report acurately describes the ideas from the paper for the relevant audience. Analysis is supoprted by evidence from course material.