Prompt 1: Interest in AI for Social Impact

- *What draws you to the intersection of AI and social change? Please include specific examples of how you believe AI can address complex societal challenges.*

When I was younger, the most impact artificial intelligence had in my life was the chatbots. I would message my friends at sleepovers, getting a good laugh from how confused they were or scared of how accurate they could be. But that was the limit.

Now, as I become more ingrained in my studies and enter the workforce, I realize the impact artificial intelligence has on my academic and personal life. No longer is it just a silly chatbot; it is completely revolutionizing the way I exist and think in our modern society.

As a freshman, I was initially a Computer Science and Neuroscience major. I collaborated with an engineering student on a literature review that would be presented at RISE, focusing on the effectiveness of breast cancer detection. Our research identified three standard processes: two-radiologist consensus, AI and radiologist consensus, and decision referral. In this process, AI filters out true negatives and passes inconclusive or true positives to a radiologist for further assessment and potential callback.

Our research showed us that decision referral was the most effective method for detecting breast cancer. Not only was it more accurate at identifying false positives and true negatives, but it also had several positive implications. By reducing the number of callbacks, clinics can operate more efficiently. This saves time and money and makes healthcare more accessible, particularly for underserved communities where medical resources are few and far between. However, its effectiveness depends on the data it is fed. So, we need to ensure that models are trained on diverse datasets to reduce bias and improve accuracy across all patient demographics. Without this, there is a risk of bias that could lead to disparities in detection accuracy. So, if implemented responsibly, AI-assisted diagnosis could make breast cancer screening more precise, accessible, and equitable, ultimately improving patient outcomes on a global scale.

But AI's potential isn't limited to healthcare. Recently, Google Research announced FireSat, a satellite system that uses AI to detect wildfires before they get out of control. Even on the East Coast, we've felt the effects of the recent California wildfires. Whether it's the hazy skies, the air quality warnings, or the eerie orange sunsets, it's clear how far-reaching these disasters can be in our communities. Wildfires don't just devastate the areas they burn through; their impact stretches across states, affecting public health, ecosystems, and even the economy.

So, with climate change making wildfires more frequent and intense, AI-driven tools like this show how technology can step in not just to help us react to disasters but also to prevent them from escalating in the first place.

When history looks back, these are the issues and topics that will be seen to have the most impact on modern societies. So, I hope to continue exploring all this field offers to make daily life easier and accessible for those in all socioeconomic situations. This future is daunting, so I need to grab it by its mechanical horns and lead it into a future that benefits, not discriminates.

- *Any experience working with AI technologies?*

While I don't have direct experience developing AI models, I've worked with various AI tools in an academic and creative context. Because of this, I now have more insight into AI's capabilities and how different outputs can be based on the model.

In addition, as part of a project for my Object-Oriented Design class, I programmed my own "AI" player for a simulated Battleship game. This allowed me to explore how "AI" is designed to make decisions and how to integrate them into a game system.

- *How do you envision contributing your unique perspective to this field?*

I enjoy focusing on the ethical and legal challenges of developing and deploying AI and understanding the technical aspects more. This desire mainly comes from my experience at AIDE (Artificial Intelligence and Data Ethics), a working group at the Ethics Institute dedicated to exploring the implications of algorithmic biases, AI transparency, and more. I was lucky this semester to work with other students of various degree backgrounds and Professors John Basl and Vance Ricks to provide feedback to Colorado State Lawmakers on their proposed Anti-Discrimination in AI Law (CADAI).

I focused on analyzing the act's definitions and how they could be updated through moral and ethical frameworks surrounding discrimination, aiming to make the law more comprehensive. For example, within the definition of AI discrimination, the act didn't account for a monoculture of an algorithm across different companies, which can lead to new forms of bias, as discussed in this paper by Kathleen Creel. Overall, this experience helped me realize how important it is to understand the technology and the potential responsibilities developers and deployers have when ensuring that AI is ethical and transparent.

It's clear that the laws governing AI need to evolve alongside technology, and this experience illuminated my passion for helping ensure that these legal frameworks support innovation without compromising social values. So, I'm excited to keep researching how technology, law, and business interact, making sure that AI development and application stay morally and responsibly done.

Prompt 2: Project Management Experience

- *Describe a project you've managed from conception to completion. In your answer, please include:*
    - *What specific problem were you trying to solve?*
    - *What approach or methodology did you use to develop your solution?*
    - *What challenges did you encounter during implementation, and how did you overcome them?*
    - *What was the measurable impact of your project?*
    - *What did you learn from this experience that you would apply to future projects?*

While at Google CEDI, I worked with another intern to develop an Angular Dart dialogue/pop-up component that replaced a deprecated one. Our main challenge was figuring out how to transition teams to the new component without requiring major rewrites, all while ensuring that the new component was accessible for users and easy for other teams to use.

Since this was my first time working with Angular Dart, I had to quickly learn the nuances of the language/framework alongside creating our design doc for the component. Over 12 weeks, 7 seven weeks were spent refining that design document, collaborating with stakeholders to ensure it addressed immediate and future needs after looking at the specifications and previous use cases. This took so long because many stakeholders were concerned about whether engineers could migrate simply by updating an HTML tag. However, the structural differences between the old and new Angular Dart components meant specific attributes weren't compatible.

We wanted to redesign the component to support old attributes, although that seemed out of scope then. But, after weighing the long-term trade-offs, we decided to implement a wrapper that dynamically translated old attributes when needed, such that teams using the old component to transition seamlessly while keeping new integrations clean and efficient. By the end of the project, four teams had adopted our component in 10 transitive use cases.

Overall, this experience emphasized prioritizing collaboration and communication to get the job done, which I bring with me to every project I work on.

Prompt 3: Collaborative Work Style

- *Describe your experience working in diverse, cross-functional teams. Please include:*
    - *Your approach to communicating with stakeholders of different backgrounds.*
    - *How do you handle feedback and integrate it into your work?*
    - *An example of how you've successfully navigated team conflict or differing priorities*

I worked closely with other engineers, designers, and QA testers at Storm Flag Games. I usually discuss program designs with my manager, evaluate the pros and cons, and how they align with the project/ticket goals. For example, when working on a way to streamline animation and sound integration, I implemented various JSON-driven configuration systems that allowed the art team to incorporate their changes more efficiently. After discussing this and other features with my manager, we refined my various approaches to ensure they remained scalable and compatible with other game components.

This project came along because I had been discussing with the art team general issues or concerns they had when integrating their art into a game. Since most of them did not come from a programming background, the attachment and setting up could get confusing, blurring where issues (programming or art) would arise. So, the JSON configuration systems sped up the art team's workflow and reduced their dependency on engineers for minor tweaks since they only had to familiarize themselves with JSON. They also improved debugging efficiency. By standardizing how animations, sounds, and effects were defined, I could quickly determine whether an issue stemmed from the programming or the art side.

Receiving and integrating feedback is also essential to my process, especially regarding the QA team. I frequently had to analyze carefully reported bugs, reproduce them to understand their root causes, and implement the proper fixes. After making changes, I rigorously test the updates to ensure they resolve the issue without introducing new problems. This process lets me make note of bugs in features I implemented previously, such that I know how to replicate and fix them before sending out our games.

Although there were many times when I would get tickets from QA, engineers, and designers, I had to have frequent discussions with my manager and update a priority list on the tickets because one team never had a consistent priority over the other. A lot of it depended on the requirements of the contractor and their timeline since we also have at least 12 games being developed or worked on.

By maintaining open communication with other engineers, optimizing the art team's implementation process, and efficiently handling QA feedback, I worked towards enhancing the game without disrupting existing systems.