Proposal Ideas:

- Voice replicator:
    - Main Idea: To create a machine learning AI based upon speech recognition that will replicate a users voice after hearing input of someone talking into the microphone. The MVP being it able to say a new word based on someone's speech input. Ultimately we would like for it to be able to say any sentence that a user inputs and choose what voice it shall use.
    - Goals:
        - Yehya: To learn to use machine learning and AI
        - Oscar: To learn how machine learning works and implement some type of external software input into code
    - Libraries:
        - SpeechRecognition
        - DeepLearning of some sort
    - Mid-project check-in:
        - Have speech being recorded and the AI attempting to say something at the least.
    - Biggest Risks:
        - Can be then used for ill-mannered purposes.
        - Keep from being public or adding a disclaimer/notice that it cannot be used for such reasons
- Evolution Game:
    - Main Idea:
        - Teach a deep learning algorithm to play checkers or another similar board game. Initially, it would be playing against a human competitor, then it starts learning by competing against older versions of itself. We want to explore deep neural networks. The MVP is an algorithm that can make checkers move in response to your moves. A stretch goal is that the algorithm beats us at checkers.
    - Goals:
        - Yehya: Learn how to use deep neural networks and implement them with evolutionary algorithms.
        - Oscar: Learn how to use ML to teach an AI to do a task.
    - Libraries:
        - TensorFlow
        - Pygame or some library to simulate the game possibly
    - Mid-project check in:
        - Setup the framework for the game (checkers), and make the game intractable.

    - Biggest Risk:
        - The program becomes self-conscious, believes it's better than humans and makes them feel bad. Mitigatable by making the computer think it's stupid.
        - Realistically: the foundation for the algorithm can be exploited to be used in other fields with malicious intent. Can be avoided by not distributing the code.
- Human Brain:
    - Main Idea:
        - To create an artificial humanoid brain (through AI) that can interpret information through the computer camera and microphone and learns that way. The goal is to eventually get it to reply and interact with the person. The MVP is an interactive version of AI where there is some back and forth communication going. A stretch goal is to have it communicate a useful conversation.
    - Goals:
        - Yehya: To learn to use machine learning and AI
        - Oscar: Learn ML and AI usage and how to implement speech and object recognition libraries.
    - Libraries:
        - Open CV
        - TensorFlow
    - Mid-project check-in:
        - Have the deep-learning framework down
    - Biggest risks:
        - Becomes self-conscious, sees human beings as unnecessary and takes over the world. Can't be avoided…
        - Realistically: no real risk can be developed from this within the scope of this project, given our ability and the computational power we have access to.