Project Ideas

1 Website

I think a project is an obvious first project. It is simple and exposes the student to the basics of web development. Often web dev. is not taught in classes, and they can also learn to work with some frameworks. Will also be something they can continue to update in the future as they develop.

2 Chess Game Setup

A backend project that has the base implementation for a chess game. Allows the student to learn about game logic, efficient data structures, and how to implement a game engine. This should be fairly challenging to code a good chess engine, especially in C, C++, or Rust.

3 Poker Game Implementation

A more complex full-stack project that would involve creating a poker game with a web-based interface. This would require the student to learn about game logic and client-server communication. Potentially could use at the Poker Club too for online games. Hierarchical community based setting:

1. Need university verified email to be in university community.

2. Need Rutgers verified email to be in Rutgers community.

In each community there are leagues, created by managers. They can choose who to let in. They delineate in-game currency for the league. Also tournaments which we can even run autonomous agents (partner with Quant club).

4 Chess Engine

A more advanced project that involves creating a chess engine built on top of the chess game setup. This is very vast and many directions. They can learn about the basics of AI with minimax and alpha-beta pruning, or learn about neural networks (NNUE), etc. Alternatively to chess, could also do like a Go engine or other board game.

5 Roommate Matching Algorithm

A project that involves creating an algorithm to match roommates based on preferences and constraints. This would be an ML heavy project that would require the student to be quite advanced technically.

6 Web Scraping Reviews

A project to scrape reviews from a website, like Google Reviews, Yelp, etc., and then feed them to an LLM for analysis. Can also connect to a database to store the reviews and results. This would be a good project to learn about web scraping, databases, and LLMs. And would be useful.

7 Stack Overflow or Forum For Rutgers

A project to create a Stack Overflow-like website for Rutgers students to ask and answer questions. Can be specific to classes, clubs, or general questions. This would be a good project to learn about web development, databases, and user authentication.

8 Sports Statistics/Analysis

9 Off campus housing bidding mechanism