Matthew Mabrey

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Portfolio Website: mattmabrey1.github.io

EDUCATION:

The College of New Jersey, Ewing NJ   Anticipated Fall 2021, 4.0/4.0 GPA
Bachelors of Science, Computer Science

Achievements: Dean's List, 2017-Present

Activities and Societies: Member of Mu Alpha Theta Mathematics Honor Society, TCNJ's Game Design Club, and Philanthropy Chair for Alpha Chi Rho National Collegiate Fraternity

SKILLS:

- **Strong with C++, C#, C, Java, and Python**
- **Proficient with HTML, CSS, Javascript, SQL, and PHP to build and design websites**
- **Skilled with Unity Engine and Adobe Photoshop**

PROJECTS:

Demolition Derby Game — Independent Video Game   Summer 2019-Summer 2020

- 3D multiplayer video game created for fun using the Unity Engine and C#. Gained experience implementing multiplayer with a networking framework and using Remote Procedure Calls, Events, and Object Synchronization across multiple clients.

Game Solving Agent — Artificial Intelligence Final Project   Spring 2020

- Designed a rational game solving agent using Python that successfully completes 10 stages of an arcade game by avoiding obstacles and adversaries, while attempting to maximize its score by collecting targets as fast as possible.

Arduino RepairMan — Global Game Jam Team Project   Spring 2020

- Created a physical game for the Global Game Jam 2020 game design hackathon, using C++, an Arduino, and several I/O devices, where the player must decipher the instructions to solve puzzles before the time runs out and it "blows up".

Water Level Prediction — Artificial Intelligence Extra Credit Project   Spring 2020

- Implemented Kalman Filtering, a common technique used for object tracking, with Python to predict the actual water level of a rising water tank over time from inaccurate sensors and data.

RESEARCH:

TCNJ Recycling App — Computer Science Mentored Research TCNJ   Fall 2020

- Creating a cross platform mobile application personally focusing on backend support, implementing a database and associated queries to provide needed information regarding campus recycling initiatives and events using tools such as MySQL and PHP.

Device Security — Computer Science Undergraduate Research RCBC   Fall 2018

- Researched security flaws in current mobile device technology personally focusing on comparing the malware and virus vulnerabilities of popular mobile operating systems and assessing the security options currently available to consumers.