Alan Liu

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Education

University of Maryland, College Park (UMD) **GPA: 4.0/4.0**
Honors Global Communities (HGC) Honors Program Expected: **May 2025**

- B.S. Computer Science

Skills

Languages: C/C++, Java, Javascript, R, LaTeX, MATLAB

Software: Eclipse, Google Office Apps, Microsoft Office Apps, Adobe Creative Cloud Apps

Projects

JARVA (**C++**) **March 2022 – May 2022**
Project Manager, Backend Programmer

- Optimized a 2D system of polygon collisions and polygon physics to efficiently run for hundreds of objects at once (60 times per second) in creating a time-based arena shooter game.
- Organized objectives and managed 4-member team for efficient project workflow.

Terraria Replica (**Java**) **September 2021 – January 2022**
Project Manager, Frontend Programmer

- Applied knowledge of expandable programming and memory to recreate and optimize the popular 2D game *Terraria* using the *Slick-2D* graphics library and Perlin Noise generation.
- Implemented collision detection between hundreds of objects through self-constructed physics engine and separate program states.

Train Trouble (**Java, JavaScript**) **October 2020 – March 2021**
Full Stack Developer

- Established engine for executable program file using the Slick-2D graphics library for regional, state, and national programming competition (1st place in Maryland State competition).
- Designed and constructed 2-D puzzle game around user input, data storage, and time-based leaderboards.

Astraeus (**Java**) **December 2021 – March 2022**
Programmer

- **1st place** in community AI game competition involving optimizing resource management.
- Implemented 2D kinematics to create optimized pivotal motion of moving “spaceships” while optimizing unit production through object-oriented programming.

Work Experience

CAVA **June 2022 – August 2022**
Prep Cook

- Organized, directed, and completed kitchen orders to maintain an efficient customer service and preparation tasks in a fast-paced work environment.