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
- B.S. Mathematics

Skills

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

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

Projects

[Data Science for Globalization](#) (**R**)   **August 2022 – Present**
Programmer, Data Analyst

- Identified, manipulated, illustrated global data in R for over 200 countries and thousands of data entries using **ggplot** and **gganimate** visual libraries.
- Analyzed and depicted trends of leading global concerns for up to 4 variables at once.

[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 with **GitHub** 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 2-D puzzle game around user input, data storage, and time-based leaderboards.

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.