# Alan Liu

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## Education

**University of Maryland, College Park (UMD)**                    **GPA: 4.0/4.0**
Honors Global Communities Honors Program                          Expected: **May 2026**

- B.S. Computer Science
- B.S. Mathematics

## Skills

**Languages:** C, C++, Java, Javascript, R, LaTeX, MATLAB, HTML, Typescript
**Software:** Visual Studio Code, Eclipse, Git, Microsoft Office Apps, Adobe Creative Cloud

## Experience

Google                                                    **May 2023 – August 2023**
STEP Intern                                                        **Sunnyvale, CA**

- Developed interactive playground to display the utilities of the Action Protection team, saving consultation efforts for the team by providing a tool for clients to interact with.
- Planned for implementation and made design decisions for frontend and backend components, specifying necessary changes and documenting the playground for future users.
- Explored viability and implemented integration tests and WebDriver tests to verify validity and reliability of RPC actions and responses.
- Full stack development using Java, HTML with Soy framework, Typescript, and Javascript.

## 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 (**Java**)                                          **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

- Recreated and optimized the popular 2D game *Terraria* using the **Slick-2D** graphics library and **Perlin Noise** generation, using a self-constructed physics engine.