

# Alan Liu

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## Education

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### University of Maryland, College Park (UMD)

Honors Global Communities Honors Program

**GPA: 4.0/4.0**

Expected: **May 2026**

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

## Skills

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**Languages:** C, Java, C++, Javascript, R, LaTeX, MATLAB, HTML, Typescript, Markdown

**Software:** Visual Studio Code, Eclipse, Git, Microsoft Office Apps, Adobe Creative Cloud

## Experience

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Google

**May 2023 – August 2023**

STEP Intern – Core Team

**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 in **Markdown**.
- 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

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### Data Science for Globalization (R)

**August 2022 – May 2023**

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.