

Mason Bott

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Education

University of Colorado Boulder

Aug 2022 - May 2026

B.A. in Computer Science, Minor in Mathematics

Boulder, CO

- **GPA:** 3.96
- **Extracurriculars:** Competitive Programming, Server Development, Cybersecurity
- **Courses:** Computer systems, algorithms, data structures, database systems, data science, software development methods and tools, calculus 1 & 2, discrete math, linear algebra, operating systems, cryptography

Experience

Free Food Market Volunteer

Dec 2021 - May 2022

SECORCares

Parker, CO

- Cultivated a better local community by conducting analysis and optimizations to determine and execute the most efficient method for assembling care packages.
- Assisted 100+ individuals in food stability while working collaboratively to achieve success after basic training.

Projects

Sedmos: An advanced graphing calculator | *TypeScript, Svelte*

- Developed algorithms for rendering mathematical functions on an interactive canvas, involving coordinate system transformations and custom event handlers for dynamic graph updates.
- Implemented complex UI scenarios for infinite function plotting and seamless user interactions using TypeScript and the Svelte framework, ensuring optimal performance and responsive design.

Long term Memory in AI | *Flutter, Dart, Python*

- Applied state of the art research to a large language model using common sense relations to enhance memory with a graph-based memory timeline structure on the backend.
- Designed and developed a fluid chat interface with Flutter, allowing for multiple conversations with many agents, as well as a matching system to pair the user with agents.

Rush: A rudimentary shell | *Rust, Cargo*

- Created functionality to run processes and view their respective state.
- Used the Unix philosophy, including the use fork and process execution system calls.

ExpenseShare: A practical finance application | *ExpressJS, Handlebars, PostgreSQL, NodeJS, Docker*

- Constructed and implemented database schema and with robust authorization mechanisms, facilitating secure and efficient CRUD operations on a PostgreSQL database.
- Applied Agile methodology in a collaboration with peer developers. Employed effective communication and deadline success.
- Implemented server-side logic using ExpressJS, effectively handling application endpoints and API calls while processing client requests for seamless front-end and back-end communication.

Honors and Awards

Awards: Dean's List for 4 semesters, Life Scout

Scholarships: Hale esteemed scholarship

Competitions: 2nd place at HackCU 2024, 2nd place at FBLA web design state competition 2021

Technical Skills

Languages: C++, x86-64 AT&T assembly, Lua, Rust, Python, JavaScript, TypeScript, MySQL, Nix, Dart

Developer Tools: Git, Docker, AWS, VS Code, Vim, GDB, Linux, Direnv, Regex, Neovim, Linux, macOS

Frameworks and libraries: Svelte, Flutter, ExpressJS, PostgreSQL, Pandas, NumPy