

Mason Bott

masonbott.com | 970-443-3833 | masonmbott@gmail.com | linkedin.com/in/masonmbott | github.com/masoniis

Education

University of Colorado Boulder

Aug 2022 - May 2026

B.A. in Computer Science, Minor in Mathematics

Boulder, CO

- **GPA:** 3.95
- **Extracurriculars:** Competitive Programming, Server Development, Cybersecurity
- **Courses:** Computer systems, algorithms, data structures, database systems, data science, software development methods and tools, integral and differential calculus, discrete math, linear algebra, operating systems, cryptography, machine learning, human-computer interaction, programming languages

Experience

Co-Founder & Developer

Feb 2023 – Present

Apemallet Limited

Boulder, CO

- Developed cross-platform mobile applications with a strong focus on performance, scalability, and user experience.
- Led Agile development for a team of four, overseeing code reviews, task tracking, and biweekly sprints to improve team efficiency.
- Designed and implemented CI/CD pipelines, streamlining deployment processes and reducing weekly manual effort by **3+ hours**.

Volunteer Coordinator

Dec 2021 – May 2022

SECORCares

Parker, CO

- Optimized care package assembly process via workflow analysis, reducing packing time by **30%** while coordinating with other volunteers to serve **100+** weekly recipients

Projects

Advanced Graphing Calculator | *TypeScript, Svelte, HTML5, CSS*

- Developed a high-performance graphing engine with real-time rendering of mathematical functions, supporting vector fields and complex equations through coordinate transformations.
- Designed an interactive UI with smooth pan and zoom capabilities, enabling infinite plotting for detailed function exploration.

AI Companion | *Flutter, Dart, Python*

- Enhanced AI memory retrieval by implementing a novel pipeline that links causality relationships to stored memories, improving contextual coherence.
- 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.
- Explored diffusion models by freezing attention layers to maintain character consistency in generated outputs.

A Lightweight Shell | *Rust, Cargo*

- Developed a lightweight shell in Rust with C bindings, enabling execution and management of arbitrary processes.
- Implemented core Unix principles, utilizing `fork()` and process execution system calls for multi-process handling.

Finance Management Web App | *Node.js, Express.js, PostgreSQL, Docker*

- Designed PostgreSQL database schema with secure authentication; optimized SQL queries and implemented unit tests covering **85%** of critical workflows.
- Built RESTful API with Express.js handling user transactions; containerized backend services using Docker for deployment consistency.

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 website 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