

AMMAAR SAADAT

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Education & Awards

University of Michigan - Ann Arbor

Bachelor of Engineering - Computer Science and Engineering

Dean's List - Honors Recognition

May 2025

Ann Arbor, Michigan

Michigander Scholars in Semiconductors Scholarship

Jan. 2025

Awarded \$5,000 for academic excellence and commitment to Michigan's semiconductor industry.

Ann Arbor, Michigan

Courses: Operating Systems, Web Systems, Computer Security, User Interface Development, Computer Architecture, Info Retrieval, Human-Centered Software, Data Driven Software, Linear Algebra, Calc I-III

Experience

KLA

May - Aug. 2024

Software Engineering Intern — Java, gRPC, Git, protobuf, RTC

Ann Arbor, Michigan

- Developed a scalable internal web app that integrates hardware controllers using a microservice/plug-in based API architecture to **reduce tool UI interaction time by 30% across 2 divisions** in Milipitas/Ann Arbor locations
- Designed and deployed **8+ standardized automation API endpoints** using Java, gRPC, protobuf, and Spring Boot after evaluating 4 alternative network frameworks for performance and compatibility.

MIDAS, University of Michigan Institute of Data Science

Nov - May 2024

Web Intern — WordPress, AwesomeTables, WPBakery, HTML, CSS5

University of Michigan

- Redesigned and maintained MIDAS webpages to support **university-wide marketing for 5+ AI events**, incorporating real-time feedback and improving UI/UX engagement. Deployed the event pages via WPBakery and AwesomeTables, enhancing navigation and increasing web traffic during the F23/W24 semesters.
- Created and updated **30+ staff and affiliate profiles**, ensuring accurate internal data representation across WordPress and the University of Michigan database.

Vitra.ai - Google x MHacks

Apr. 2024

Founder / Lead Software Engineer — Gemini Pro 1.5, Python, Flask, React.js

University of Michigan

- Led the development of **Vitra**, a nonprofit voice transliteration app built with Python, Flask, and Vite React.js, integrating Google's Gemini Pro 1.5 to support **40+ languages** for real-time communication.
- Initiated the project at Google x MHacks hackathon, then scaled to an MVP by assembling and managing a team of undergraduate engineers using agile workflows, Gantt charts, and phased prototyping to demo.

Projects

Multi-Threaded Network File Server | Networking, File Systems, C++, Threads

Apr. 2025

- Built a scalable thread-per-request file server supporting 4 network commands and 95% protocol data validation compliance with client requests by introducing per-file locking and hand-over-hand traversal for safe parallel access to shared file system state
- Handled 1,000+ concurrent client requests test programs avoiding race conditions or memory leaks and verified via stress tests and edge-case validations for malformed inputs and I/O failures

Insta485 (Team Project) | React.js, EC2 AWS, Flask, Python, SQL

Feb. 2024

- Collaborated to build a full-stack Instagram clone by integrating server-side, client-side, and dynamic modules into a cohesive web application enabling users to create posts, comments, personalized profiles with a pagination feed by leveraging Flask, Python, React.js, and a SQLite database to support over 1000 users
- Implemented user authentication, session key management, and RESTful APIs with Flask and SQLite, supporting core features like posting, commenting, following, and profile customization.

Multicycle CPU Simulator | C, Assembly, LC2k, ARM

Apr. 2024

- Developed a multicycle CPU and unified L2 cache simulator in C for the LC2K architecture, implementing configurable block size, set associativity, and LRU replacement; supported write-back and write-allocate policies, achieving optimizations across 20+ assembly test programs with detailed memory transfer tracking, and hazard optimizations

Technical Skills & Interests

Languages: Python, Java, C++, C, JavaScript, Swift, Flutter, HTML/CSS5

Developer Tools: VSCode, IntelliJ, XCode, MATLAB, GM Studio 2, Maven

Frameworks: React.js, DevOps, Flask, MySQL, Django, gRPC, REST, Microsoft Excel, WordPress, WPBakery

Interests: Volleyball, Hiking, Gardening, Pokemon Go, Raspberry Pi-5, Networking