

# AMMAAR SAADAT

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## Education & Awards

### University of Michigan - Ann Arbor

May 2025

*Bachelor of Engineering - Computer Science and Engineering*

*Ann Arbor, Michigan*

*Dean's List - Honors Recognition*

### 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*

*Ann Arbor, Michigan*

- Developed a scalable internal web app to **reduce tool UI interaction time by 30% across 2 divisions** by integrating remote machine controllers using a microservice/plug-in based API architecture for global offices
- Designed **8+ automation API endpoints** for remote access to company tools via global deployment across offices

### Vitra.AI

Apr. 2024

*Co-Founder / Lead Software Engineer — Gemini, Python, Flask, React*

*University of Michigan*

- Co-founded Vitra, a non-profit **AI transliteration app** to reduce diagnosis time and increase accuracy of patients different language barriers via **40+ languages** for real-time communication
- Scaled ideation to an MVP with **demos of 2+ clinics** by assembling and managing a team of undergraduate engineers using agile workflows, Gantt charts, and phased prototyping to demo

### MIDAS, University of Michigan Institute of Data Science

Nov - May 2024

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

*University of Michigan*

- Redesigned MIDAS webpages to improve **university-wide marketing of 5+ AI events**, incorporating real-time feedback to improve UI/UX engagement and **increase 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

## 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

### Instagram Clone | *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

**Frameworks:** React, TypeScript, Tailwind, gRPC, Next.js, Flask, SQL, Excel, WordPress

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

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