

AMMAR ATEYA

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EDUCATION

University of Michigan - Ann Arbor

Expected Graduation: Apr 2027

B.S. in Computer Science and Linguistics, Minor in Mathematics

Ann Arbor, MI

- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Web Systems, Distributed Systems, Machine Learning, Computer Organization, Discrete Mathematics, Linear Algebra, Statistics, Linux Programming
- **Activities and Societies:** V1 Entrepreneurship, Michigan Hackers, Linguistics Club
- **Awards/Programs:** National Merit Scholar, Michigan Seal of Bilingualism in Spanish, SpartaHack X Best Game, Hacklytics 2024 National Security Agency Award, Michigan Founders' Fund Emerging Talent

EXPERIENCE

GitHub

May 2025 – Aug 2025

Software Engineer Intern

San Francisco, CA

- Spearheaded React rewrite of the Pull Requests Files Changed interface, **slashing CPU usage by 12% per request**.
- Identified and **remediated critical accessibility issues** across high-traffic React and Ruby on Rails pages, improving UI/UX for users relying on assistive technology, **at least 7% of GitHub users, or 10.5 million active users**.
- Led Vitest migration of React packages; identified and removed obsolete code to **cut bundle size by 5%**.

OxKnowledge

Jun 2024 – Aug 2024

Software Engineering Intern

Ann Arbor, MI

- Developed a **full stack** Notion-style knowledge base editor in **Next.js** for clients to manage documentation.
- Managed **end-to-end cloud deployment on Vercel**, automating the build process with **CI/CD pipelines** to streamline continuous integration, updates, and minimize downtime.
- Designed and implemented SQL schema, integrated with **Supabase to handle real-time data and user authentication**, improving query performance by **25%** and ensuring efficient data management.

PROJECTS

Thread Library | C++, Multi-threading, Mutexes, Condition Variables, Semaphores, Unix

- Implemented a kernel C++ thread library on Unix, handling CPU booting, **thread management**, management of 50+ CPUs, interrupts, atomicity, and FIFO scheduling order.
- Designed **spin-locks, mutexes, conditional variables** utilizing advanced Unix context management.
- Enforced comprehensive **unit tests** to assure the library's soundness, identify and rectify errors, and guarantee optimal performance in diverse scenarios.

PeteCode: LeetCode Solution Platform | React, FastAPI, Supabase, GroqCloud, ElevenLabs API, TypeScript

- Developed a full stack AI-powered platform using **React** and **FastAPI** to provide personalized, engaging coaching for LeetCode problems; **integrated API responses** from GroqCloud (LLaMA 3.2 70b model) and ElevenLabs APIs.

Reddit Machine Learning Classifier | C++, Naive Bayes Classifier, lldb

- Developed **machine learning classifier** in C++, leveraging **natural language processing** techniques to predict project topics from posts on a general data structures and algorithms learning forum; achieved **92% accuracy**.

MapReduce Framework | Python, TCP/UDP

- Created a Python-based **MapReduce framework for distributed compute**, utilizing **TCP and UDP protocols** for efficient distributed processing and data transmission across the network.
- Employed **fault-tolerant** Manager and Worker instances to provide **reliability** for large-scale distributed projects.

Computer Vision Fighting Game | Python, Pygame, OpenCV, MediaPipe

- Built a desktop game, leveraging OpenCV and MediaPipe to **recognize real-time gestures via webcam**, and map them to in-game actions such as healing and attacking; **won an award** at the annual MSU hackathon.
- Designed **AI opponents with state-driven logic**, allowing for single-player mode, enhancing user interactivity.

TECHNICAL SKILLS

Languages and Frameworks: C++/C, Python, JavaScript, TypeScript, HTML/CSS, Flask, React.js, Next.js, Ruby

Tools and Technologies: Git, AWS, Bash/Linux, SQL, NoSQL, REST APIs, WebSockets, Docker/Kubernetes

ADDITIONAL

Interests: International Cinema, Film Photography, Language Learning, Track & Field, Soccer, Weightlifting

Natural Languages: English (Native), Arabic (Native), Spanish (Bilingual)