Michael Mosuro

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Education

Morgan State University Baltimore, MD

Bachelor of Science in Computer Science *Aug. 2021 – May 2025*

- **Relevant Coursework:** DSA, Software Engineering, Algorithms Analysis, Database Design, Operating Systems

Technical Skills

Languages: Python, HTML, CSS, SCSS, JavaScript, SQL
Frameworks: React, Node.js, Flask, FastAPI
Developer Tools: Git, Docker, VS Code, Visual Studio
Libraries: Pandas, NumPy, Matplotlib

Experience

Battelle Memorial Institute May 2025 – Aug 2025

Software Egineering Intern *Columbus, Oh*

- Contributed to the design of a custom set data structure implemented using Numpy and Cupy.
- Wrote Arrange-Act-Assert unit tests with random inputs using the hypothesis testing library.
- Benchmarked performance of the set data structure and created an analysis poster-presentation of the results.

Minds Lab(Machine Intelligence and Data Science) Sep 2024 – Aug 2025

Under Graduate Research Assistant *Baltimore, Md*

- Created a real-time health monitoring dashboard utilizing the Next.js framework.
- Implemented single-page web application from a mock-up design document.
- Collaborated with team members using version control systems such as Git to organize modifications and assign tasks.
- Secured authentication routes with Fast-API and JWT-tokens to ensure user privacy.

Code-Path Jan 2025 – Apr 2025

Participant *Baltimore, Md*

- Participated in an intensive full-stack development curriculum, gaining proficiency in React and API integration while executing over 10 hands-on projects that simulated real-world application scenarios.
- Constructed a full-stack web application using React for the front-end and Supa-base as the backend, enabling seamless integration and efficient data handling to support high-quality user experiences and team collaboration.
- Gained industry-relevant skills through hands-on experience with modern web technologies, equipping me to design and deploy robust, user-centric applications

Projects

Bear-assist | *(React,Python,AWS,Lang-Chain,Flask)*

- Designed a full-stack AI assistant using React, Flask, and Lang-Chain to support 500+ CS students with personalized course planning, resume tips, and department-specific questions and answers, powered by RAG (retrieval augmented generation) and a PostgreSQL-based vector knowledge base.
- Integrated Eleven Labs TTS(text-to-speech)/STT(speech-to-text) Apis with FF-MPEG to deliver real-time speech-to-text and text-to-speech capabilities, enhancing accessibility and allowing users to interact with the assistant via voice across browsers..
- Established Docker-based deployment architecture for cross-platform compatibility, ensuring seamless development, testing, and deployment across Mac, Linux, and Windows; enabled professors to update knowledge base content via an admin dashboard and AWS S3-backed document management.

Resonance | *(Next.js, Tailwind-CSS, Docker, Python, PostgreSQL)*

- Programmed a real-time music discussion platform using Next.js for a high-performance, responsive front end and Flask for a scalable, efficient backend, ensuring seamless user experiences at scale.
- Leveraged Open-AI-API to generate meaningful conversation prompts, fostering meaningful discussion around music to enhance user interaction
- Enhanced and optimized music recommendations using the Spotify API for accurate music discovery and recognition, ensuring consistent album artwork retrieval and real-time data synchronization.