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EDUCATION

Michigan State University

Bachelor of Science in Computer Science

East Lansing, MI

Aug. 2022 – Dec. 2026

EXPERIENCE

Undergraduate Learning Assistant

Michigan State University, College of Engineering

Aug. 2024 – Present

East Lansing, MI

- Drove a **35% increase** in student assessment scores by incorporating **Python Tutor** into mentorship sessions to visually clarify complex programming concepts and algorithmic problem-solving techniques
- Boosted the efficiency of student-written code by an average of **25%** by designing and implementing hands-on exercises that emphasized control structures and algorithmic optimization

Embedded Systems Teaching Assistant

Prof. Raushan Kumar

Aug. 2023 – Dec. 2024

Remote

- Guided a cohort of **25+ students** to achieve a **100% project completion rate** by delivering comprehensive training in **Linux/Ubuntu** configuration, **C/C++ Arduino** programming, and **IoT sensor** integration
- Reduced lab setup and installation time by **30%** by optimizing the environment with pre-configured **VM images** and **CLI automation scripts**

PROJECTS

Mach | Next.js, React, tRPC, PostgreSQL, Prisma, TypeScript, LangChain, Tailwind

Nov. 2025 – Jan. 2026

- Architected a full-stack AI-powered codebase intelligence platform using **Next.js 15** and **tRPC**, enabling semantic code search through **768-dimensional vector embeddings** for natural language queries across complex repositories
- Engineered scalable **vector similarity search** using **PostgreSQL pgvector** and **Google Gemini embeddings**, retrieving top **10 code files** via **cosine distance** algorithms for context-aware AI responses
- Developed automated **GitHub repository indexing** using **LangChain** to process entire codebases, generating AI-powered file summaries and storing embeddings for real-time semantic search
- Built meeting analysis system integrating **AssemblyAI auto-chapters API** to transcribe recordings and extract structured insights, categorizing discussions into time-coded issue summaries

Obliq.chat | Next.js 15, React 19, Drizzle ORM, PostgreSQL, JWT, Resend, Tailwind CSS

Feb. 2025 – Present

- Developed a mobile-first, all-in-one AI platform for the Bangladeshi market, integrating diverse models (**OpenAI**, **Claude**, **Mistral**, **Gemini**) into a unified interface using **Next.js 15**
- Engineered a multi-layered security system featuring **bcrypt hashing**, **JWT sessions**, and **email verification** to ensure secure user access and data protection
- Designed a scalable **PostgreSQL** architecture using **Drizzle ORM** to efficiently manage user data, audit logs, and flexible chat metadata with **JSONB**
- Validated product-market fit and acquired **30+ active users** within the first week of an invite-only launch

Intervue | Next.js 15, React, Vapi Voice Agents, Google Gemini API, Firebase, Tailwind

Nov. 2024 – Feb. 2025

- Architected a full-stack, voice-based mock interview platform using **Next.js 15** and **Vapi Voice Agents** to simulate realistic, real-time AI-driven interviews
- Solved a core performance bottleneck by engineering a **low-latency audio streaming** architecture, enabling seamless, bidirectional conversational flow
- Enhanced user self-assessment by implementing a real-time evaluation and feedback generator powered by the **Google Gemini API**
- Ensured user data integrity and session persistence by integrating **Firebase Auth** and utilizing **Firestore** for secure storage of interview history

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, C, C++, HTML, CSS, SQL

Frameworks & Libraries: React, Next.js, Express.js, Flask, Tailwind CSS, Socket.io, Zod, tRPC, Prisma, LangChain

Developer Tools: Node.js, Git, Docker, AWS, Google Cloud, VS Code, Firebase, Clerk Auth, Stripe API, JWT

Databases & APIs: PostgreSQL, MongoDB, OpenAI API, Google Gemini API, Vapi Voice Agents