

# Sharfuzzaman Noor Sadman

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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