Mohammad Mustafa Shiraz Ahmed

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Summary

Full-stack developer and Computer Science student at UMass Boston with proven experience in building scalable web applications and AI-powered solutions. Track record of reducing system response times by 60% and increasing user engagement by 25% through innovative solutions. Winner of multiple hackathons and specialized in modern web technologies and real-time collaboration systems.

Experience

Technology Specialist, UMass Boston   Feb 2023 – Present

- Led development of BeaconFlex video platform using **Next.js**, **TypeScript**, and **Stream.io API**, implementing **WebRTC** for real-time communication and custom hooks for state management, will be serving 16,000+ users
- Architected dual camera system with dynamic video quality adjustment and server-side recording using **AWS S3** for storage
- Built Beacon Pathway app using **Next.js**, **TensorFlow.js**, and **GraphQL**, creating **ML**-powered personalized campus recommendations increasing student engagement by 25%
- Developed **Gemini**-powered Canvas LMS chatbot with multi-language support and voice interaction, reducing support response times by 60%

Software Engineering Fellow, Headstarter AI   July 2024 – Sept 2024

- Architected secure payment system using **Stripe API**, **MongoDB** with **SCRAM-SHA-256** authentication, and **JWT**-based access control
- Implemented real-time transaction monitoring and automated reconciliation using **Node.js** and **WebSocket**
- Developed **Gemini**-powered chatbot with **natural language processing** capabilities, improving customer inquiry response time by 40%

Software Engineer Intern, IBS Software   May 2023 – Aug 2023

- Engineered high-performance **RESTful APIs** using **Node.js** and **Express.js** for airline reservation system, implementing caching and query optimization to reduce data fetch time by 30%
- Developed responsive UI components with **React.js** and **Material-UI**, creating reusable components for flight booking, seat selection, and passenger management used by 50K+ daily users
- Implemented real-time flight tracking system using **WebSocket** technology and integrated third-party APIs for live flight data
- Collaborated in **Agile** environment using **JIRA** and **Git** for version control, participating in daily standups and sprint planning

Projects

MyDocs – Real-time Document Editor   Live Demo | Github

- Built Google Docs clone using **Next.js**, **TypeScript**, and **Liveblocks**, featuring **real-time collaboration** and **Gemini AI**-powered writing suggestions
- Implemented secure authentication with **Clerk**, real-time presence indicators, and threaded commenting system
- Designed responsive UI with **Tailwind CSS** and **ShadCN** components, supporting both desktop and mobile devices

CareerAI – AI-Powered Career Development Platform   Live Demo | GitHub

- Developed comprehensive career development platform using **Next.js**, **React**, and **TypeScript** with AI-powered career tools
- Implemented features including AI resume builder, cover letter generator, and interview preparation simulator powered by **Gemini API**
- Integrated **Clerk** for authentication, **Prisma** with **Neon PostgreSQL** for robust database management, and

shadcn/ui for responsive design

- Created AI-driven tools for skill assessment, career insights, and personalized professional development

BeaconFlex – Video Conferencing Platform   GitHub

- Developed university video platform with **Next.js** and **GetStream.io**, featuring multi-camera support and cloud recording
- Integrated granular permissions system and meeting scheduler which will be serving 1,000+ monthly active users
- Implemented **WebRTC** optimization for low-latency video streaming and screen sharing capabilities

Canvas LMS Chatbot – AI Assistant   GitHub

- Developed multilingual educational chatbot using **Python**, **Flask**, and **Gemini API** with voice interaction capabilities
- Implemented **natural language processing** for context-aware responses and integrated **WebSocket** for real-time updates
- Built responsive front-end using **React.js** and **Tailwind CSS**, capable of handling 1000+ daily student queries

Education & Skills

University of Massachusetts, Boston – BS in Computer Science, GPA: 3.5/4.0   Expected May 2025

Languages & Frameworks: TypeScript, JavaScript, Python|React.js, Next.js, Node.js, Express.js

Technologies: AWS, Docker, MongoDB, MySQL|Git, CI/CD, REST APIs, TensorFlow

Awards

Paul English AI Hackathon Winner (2024) – First Place & People's Choice **IEEE MIT URTC** (2023) – Research Presentation **JP Morgan Code for Good** (2023) – Technical Finalist