

Md Tahmid Ahmed Rakib

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Skills

Programming Languages: TypeScript, JavaScript, C/C++ , Go, Python

Backend Technologies: Node.js, Express.js, Socket.io, tRPC

Databases: PostgreSQL, MySQL, MongoDB, Redis

Data Streaming & Queues: Apache Kafka, Debezium, BullMQ

DevOps & Cloud: AWS, Docker, Cloudflare, CI/CD, GitHub Actions, Git

Frontend Technologies: React, Next.js, redux, MobX, Shadcn, Tailwind

Professional Experience

Software Engineer, FringeCore

February 2025 – Present

- Created automated ERP and distribution scheduling systems using **TypeScript, tRPC, and PostgreSQL** to streamline purchasing, accounting, and delivery workflows, eliminating hundreds of hours of manual coordination each month.
- Developed a real-time **Change Data Capture (CDC)** pipeline using **Debezium, Apache Kafka, and Go** microservices to synchronize the operations of the Legacy System with a parallel, incrementally developing system, ensuring smooth system transition and low-latency data propagation.
- Deployed and managed **scalable cloud infrastructure on AWS and Cloudflare**, setting up **CI/CD pipelines with GitHub Actions** for automated builds and zero-downtime releases.

Problem Solving

- **Qualified from 2,500+ teams** and earned **Honorable Mention** in The 2024 ICPC Asia Dhaka Regional Contest
- Earned **12th place among 200+ participants** in Bangladesh in the AtCoder Beginner Contest 338.
- **Judge and Problem Setter** of Intra NSU Junior Programming Contest 2023, 2024
- Ranked Top 50 among 200+ teams, Aust IUPC 2025
- **Solved 1000+ Algorithmic Problems** using C++ in various Online Judges

Projects

Bondhubot

github.com/withtahmid/BondhuBot

- Built a **mental health evaluation chatbot** using BDI, **LLM and Langchain** for early depression detection.
- Developed with the **TypeScript, React, tRPC, Gemini** ensuring privacy, scalability, and personalized reporting.

ExamEase

github.com/withtahmid/ExamEase

- Developed an **AI-driven LMS** featuring **auto-proctoring, automated grading, and micro-viva assessments**, enabling secure and efficient online examinations.
- Integrated **speech-to-text, semantic analysis, and facial recognition** with **React.js frontend, Node.js backend**, and Separate **Python Microservice for AI models** for scalable, real-time exam management.

Milkyway

github.com/withtahmid/milkyway

- Developed a lightweight, serverless web app enabling **synchronized multi-user video playback** with real-time control, supporting local and cloud video sources.
- Implemented **End-to-End Encrypted group chat**, subtitle support, personalized room auto-join, and full-screen overlay using **Vanilla JS, HTML, CSS, and MQTT** for seamless shared viewing experiences.

Education

North South University — BS in Computer Science and Engineering

2024

Research and Publication

Arian, M.S.H., Rakib, M.T.A., Ali, S. et al. Pseudo labelling workflow, margin losses, hard triplet mining, and PENViT backbone for explainable age and biological gender estimation using dental panoramic radiographs. **SN Applied Sciences** 5, 279 (2023). doi.org/10.1007/s42452-023-05503-8

- Developed PENViT, a hybrid EfficientNet-Vision Transformer model for age (70.54% accuracy) and gender estimation (84.49% accuracy) from dental radiographs
- Incorporated explainable AI to identify medically significant anatomical regions
- Outperformed ViT and ResNet backbones through novel pseudo-labelling and hard triplet mining techniques