

# Md Tanvir Rahman

Dhaka, Bangladesh

tanvir.rahman.workmail@gmail.com | github.com/tanvir-cpp | linkedin.com/in/muhammud-tanvir-rahman

## Summary

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Computer Science undergraduate with hands-on experience building full-stack, mobile, desktop, and backend projects. Skilled in React, TypeScript, React Native, Supabase, Go, C#, SQL Server, and modern web development. Strong interest in software engineering, backend systems, cloud-ready applications, and practical products that solve real user problems.

## Education

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**American International University-Bangladesh (AIUB)**

Bachelor of Science in Computer Science and Engineering

Dhaka, Bangladesh

Expected Graduation: 2026

## Technical Skills

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**Languages:** C, C++, Java, Python, JavaScript, TypeScript, Go, C#, SQL

**Frontend:** React, Next.js, React Native, Expo, HTML, CSS, Tailwind CSS

**Backend:** Node.js, NestJS, FastAPI, REST APIs, Go HTTP Server

**Database and Cloud:** Supabase, PostgreSQL, SQL Server, Supabase Storage, Vercel

**Tools:** Git, GitHub, Docker, GitHub Actions, VS Code, Visual Studio, Postman

**Concepts:** Object-Oriented Programming, Data Structures, Authentication, Role-Based Access Control, API Integration, PWA, WebRTC

## Projects

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### GoShare – P2P File Sharing Platform

GitHub

*Go, WebRTC, JavaScript, Docker, GitHub Actions*

- Built a high-performance file-sharing platform for secure LAN and browser-to-browser file transfers without cloud storage.
- Implemented WebRTC DataChannel-based peer-to-peer transfer flow so files can be shared directly between users.
- Added smart LAN discovery, device registry, Server-Sent Events broadcasting, QR/link sharing, and installable PWA support.
- Hardened the backend with rate limiting, upload limits, security headers, path traversal protection, and stale file cleanup.
- Containerized the application using Docker and added CI workflow for build, tests, race detection, vetting, and Docker image build.

### AirWatch Pro – Air Quality Intelligence Dashboard

GitHub

*React, TypeScript, Vite, Tailwind CSS, Leaflet, Recharts, Supabase*

- Developed a real-time air quality dashboard using satellite, ground-station, and weather data sources.
- Built interactive AQI dashboards, pollutant charts, map visualizations, health alerts, and location-based monitoring features.
- Integrated NASA TEMPO, EPA AirNow, OpenAQ, and weather APIs through a unified data service layer.
- Implemented PWA features including offline support, service worker caching, install prompts, and responsive mobile UI.
- Designed modular React components and custom hooks for geolocation, data fetching, alerts, and scientific visualization.

### AIUB Notes – Course Material Sharing Mobile App

GitHub

*React Native, Expo, Supabase, PostgreSQL, Supabase Storage*

- Built a mobile app for AIUB students to browse course notes, solutions, and study materials.
- Implemented Supabase Authentication with email OTP verification and session handling for student login and signup.
- Designed admin workflows for uploading, approving, and organizing course materials by course and exam type.
- Used Supabase Storage and Row Level Security policies to secure approved materials and student submissions.
- Added course data generation workflow to seed structured course information into the application.

### Bank Management System – Desktop Banking Application

GitHub

*C#, .NET Framework, Windows Forms, SQL Server*

- Developed a desktop banking application with customer, employee, and admin role-based access.

- Implemented secure login, BCrypt password hashing, session handling, and user validation.
- Built account creation, deposits, withdrawals, transfers, balance tracking, and transaction history modules.
- Designed SQL Server tables for users, accounts, transactions, and audit logs with relational constraints.
- Followed layered architecture by separating user interface, business logic, and database operations.

## Experience

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### Student Developer / Independent Projects

2024 – Present

- Built multiple academic and personal software projects using modern frontend, backend, mobile, and desktop technologies.
- Practiced Git-based development workflows including repository management, branching, documentation, and project deployment.
- Worked with authentication systems, database schemas, API integrations, file storage, and responsive user interfaces.

## Additional Skills

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**Soft Skills:** Problem Solving, Communication, Team Collaboration, Documentation, Good Listener

**Productivity Tools:** Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Google Workspace