

TOUSIF RAHMAN ANTO

Junior Backend Developer | Node.js, Express, TypeScript

Dhaka, Bangladesh | +880 1749 313 648

tousif.rahman.anto@g.bracu.ac.bd

Portfolio | GitHub | LinkedIn



Summary

Computer Science and Engineering graduate building backend applications with Node.js, TypeScript, Express and Django REST Framework. Project work includes transactional payment settlement, real-time tournament workflows and AI requests with a shared time limit. Deployed applications on Railway and Vercel.

Education

BRAC University

Graduated September 2026

BSc in Computer Science & Engineering

Dhaka, Bangladesh

Coursework: Data Structures & Algorithms, Object-Oriented Programming, Databases, Operating Systems and Software Engineering.

Technical skills

Backend: Node.js, Express, Django REST Framework, REST APIs, Socket.IO

Languages & data: JavaScript, TypeScript, Python, MongoDB, PostgreSQL, Supabase

Security & testing: JWT, RBAC, Content Security Policy, Vitest, Supertest, Django tests

Tools & supporting web: Git, Railway, Vercel, React, Next.js, Tailwind CSS

Selected projects

MediPay: Healthcare Billing & Settlement Engine

GitHub | Demo

Node.js, TypeScript, Express, MongoDB, React, SSLCOMMERZ

- Built patient, encounter and invoice workflows with immutable invoice snapshots, Decimal128 money calculations, staff permissions and audit logs.
- Made payment settlement duplicate-safe using unique transaction IDs and paid-status checks inside MongoDB transactions; integrated SSLCOMMERZ and Bangla QR for payments, refunds and reconciliation.
- Passed 20 API tests covering validation and access control, including staff privilege escalation, malformed payment notifications and unauthorized billing actions.

AFK Arena: Real-Time Tournament Platform

GitHub | Demo

Node.js, Express, MongoDB, Socket.IO, React

- Led the platform build and owned backend workflows for a 25+ person production crew; implemented 3 bracket formats with authenticated APIs and live updates.
- Built turn-based map selection with revision checks that reject conflicting actions and Socket.IO delivery scoped to authorized match participants.
- Passed 118 backend tests, including a 72-configuration map-selection matrix across 2 games, 3 match formats and different map pools, toss results and first actions.

CodeSwitch: Multi-Provider Code Conversion Engine

GitHub | Demo

Python, Django REST Framework, React, TypeScript, OpenAI, Groq, Gemini

- Built conversion across 5 programming languages using 3 configurable AI providers and a rule-based fallback; spent approximately 40 hours on development and testing (personal estimate).
- Kept AI-key retries within one 20-second request budget; used a cancellable subprocess for HTTP calls so slow headers or stalled responses cannot keep a request running indefinitely.
- Passed 163 backend tests covering authentication, conversion safety, provider failures and request boundaries; deployed the backend on Railway and frontend on Vercel.

The Archive: Cloud Document Application

GitHub | Demo

Next.js, TypeScript, Supabase Auth, Supabase Storage / Vercel Blob

- Built authenticated PDF storage with user-scoped paths and signed direct uploads; checked file signatures and a 20 MB limit before publishing uploaded files.
- Passed 66 tests across 7 test files covering authentication, file routes, upload validation, storage boundaries and rate limiting.

Research

Project Lead: Local emotional-support conversational AI

2025 - 2026

Undergraduate thesis / Python, QLoRA, Mistral, Gradio, MongoDB

- Led a five-member team developing a non-clinical emotional-support chatbot. The contribution was an integrated local framework combining adapted language models, inspectable response checks, bounded correction and conversational memory.
- Implemented four interpretable indicators for empathy consistency, response drift, support quality and support consistency; connected response checks to guided regeneration and fallback handling before delivery.
- Prepared a dialogue-data pipeline and integrated Mistral, Qwen, DeepSeek and Llama for comparative work; used 4-bit QLoRA for local adaptation of 7B–8B models on a 12 GB consumer GPU.
- Integrated a Gradio interface, optional MongoDB memory, user ratings and identifier redaction. Accepted interactions informed later prompt guidance and summaries while model weights remained fixed during conversations.

Teaching experience

Dreamers Academy: Coding Instructor & Curriculum Developer

2024–2026

- Taught Python fundamentals and structured problem-solving to 300+ students and provided individual feedback.
- Developed a Lua curriculum for Roblox Studio game development.

Certifications

HackerRank: Advanced SQL Certificate

Leadership & service

Millennium Fellowship: Fellow, Class of 2025; Global Admissions Committee

Selected from a worldwide pool of 60,396 applicants. Led a student well-being project and reviewed fellowship applications using a scoring rubric. Received a letter of recommendation from the MCN Admissions Manager. Fellowship certificate | MCN recommendation letter

AFK Productions: Head of Human Resources

2024–2025

Coordinated recruitment, scheduling, communications and event logistics for a 25+ member esports crew.