Tuhin Chowdhury
Software Engineer

📞 +8801701538514 ✉ tuhin.sec@gmail.com in Tuhin Armoy ⊙ Tuhin Chowdhury 🔗 Portfolio

WORK EXPERIENCE

Golden Harvest Infotech Limited   02/2023 – Present
Software Engineer   Dhaka, Bangladesh
- Experienced in Agile SDLC, working on all phases from requirement analysis to deployment, using Scrum workflows, Jira, and meeting hard deadlines.
- Led a research-based project, developed multiple microservices, collaborated with the DevOps team, and maintained CI/CD pipelines.
- Mentored junior developers, performed database query optimization, and built AI-based in-house tools and scalable backend systems serving 2,000+ daily users.
- Built a Nikon SDK-based desktop application for real-time image capturing and processing, reducing manual work by 60%.

Rokkhi IT Limited   06/2022 – 01/2023
Junior Software Engineer   Dhaka, Bangladesh
- Worked on building management software with a Flutter mobile app and Spring Boot backend, supporting security and parcel management.
- Optimized file management and enhanced OCR-based document scanning, maintaining microservices for scalable and reliable operations.

SKILLS

Programming Languages	Technologies and Tools
Java 21(Fluent) , C/C++(Fluent), Python	Spring Boot, .NET 8, Flutter, AWS S3, Docker, JUnit, CI/CD, Git, Jasper Reports, Kafka, Quadrant DB , FIrebase RAG, PostgreSQL, HTML, CSS

EDUCATION

Sylhet Engineering College, affiliated with Shahjalal University of Science & Technology   09/2017 – 04/2022
Bachelor of Science in Computer Science & Engineering   Sylhet, Bangladesh
Thesis: An Automatic System for Identifying and Categorizing Tribal Clothing Based on Convolutional Neural Networks, Machine Learning

PROJECTS

Hospital Management System
(Houston, USA)
Tech Stack: *Spring Boot 3, PostgreSQL, WebClient, Spring Security, ChromaDB, N8N, AWS S3, Docker, JUnit*
- Built Spring Boot microservices to manage patient information, bed management, admissions, and cross-department workflows across OPD, IPD, IAM, and EHR.
- Implemented secure communication using JWT, timestamp validation, IPC-based internal service calls, and Betterstack for centralized logging.
- Optimized performance with PostgreSQL through custom SQL, indexing, and optimized joins, along with asynchronous processing, scheduled jobs, and reliable transactional operations.
- Developed N8N automation workflows, OCR-based patient registration, real-time bed allocation, nurse shift tracking, and duplicate detection, significantly improving system accuracy and operational efficiency.

Supply Chain Management Software
(Garment Industry, Dhaka)
Tech Stack: *Spring Boot 3, PostgreSQL, JasperSoft, Sendgrid, Docker, Zipkin*
- Designed and implemented the backend for a Garment Supply Chain Management software for 1500+ users, developing 10+ microservices to manage the entire lifecycle from order import via Excel to vendor, warehouse, production updates, and shipment, including interactive templates for every phase of garment production. The system reduced manual work by over 50% and included an automated alert system.
- Maintained APIs, service registry, and gateway, handled multiple databases, integrated Feign clients for inter-service communication, and used Zipkin for distributed tracing, ensuring robust, scalable, and observable operations.

Satellite Frequency Renting and Auto Billing System
(Bangladesh Satellite Corporation, Dhaka)
Tech Stack: *Java, Spring Boot, JasperReport, Sendgrid, PostgreSQL*
- Built a Spring Boot billing management system for multiple clients to automate 100% of invoice, chalan, and payment notifications via SMTP email, handling 15+ JasperReports with multi-report and graph-based analytics, deployed using Docker.
- Calculated satellite frequency usage on a pay-per-use model, integrating dynamic reporting and analytics, which eliminated manual reporting and reduced operational effort by 50% while ensuring reliable, scalable billing workflows.

PUBLICATIONS

Springer   01/12/2024
Implemented BLDAR, a novel blended ensemble model integrating LightGBM, Decision Tree, AdaBoost, and Random Forest regressors for forecasting primary energy consumption. The model achieved a state-of-the-art 90% R2 score, establishing a new benchmark for sustainable energy analytics.

IEEE   01/12/2021
Developed a CNN-based system using the custom-made 'TribalBd' dataset to classify Bangladeshi tribal dresses, achieving 89.97% accuracy with YOLOv5, surpassing YOLOv6 (86.2%) and YOLOv7 (71.28%).

TEACHING & MENTORSHIP

Java & Data Structures Instructor
Mentored over 10+ students, resulting in improved programming skill and successful project completions.

PARTICIPATIONS

IEEE Computer Society Bangladesh Chapter Symposium   11/2024
Research abstract accepted for presentation.

Fourth International Conference on Emerging Research in Electronics,   03/2022
Computer Science and Technology (ICERECT)*, IEEE*
Presented paper on Computer Vision

Facebook Developer Circles Challenge | META   02/2021
Participated in Chatbot-Developments Hackathons for Messenger Platform and placed in top 20.

ICPC Intra University Selection Programming Contest   10/2019
Our team ranked top 50 among 900 teams.

Leading University National Programming Contest   02/2018
Team ranking was 72 out of 190 teams.

EXTRACURRICULAR ACTIVITIES

SEC Computer Society   11/2021 – 11/2022
General Secretary
Organized the university's annual programming contest and coordinated departmental technical events.

Bohubrihi - Edtech Platform   01/2021 – 01/2022
Campus Director
Organized programming sessions and workshops on behalf of Bohubrihi to enhance student skills.

SECPA - University Photography Club   01/2020 – 01/2022
Vice President & Instructor
Served as Image Aesthetics Instructor and conducted workshops on visual composition and photography techniques.
My work has won several national and international awards at photography exhibitions.

HULT Prize, SEC   01/2020 – 01/2021
Founding Campus Director
Organized online seminars and programs to promote social entrepreneurship on campus.