

Tuhin Chowdhury

Software Engineer

✉ tuhin.sec@gmail.com 📍 Chittagong, Bangladesh 💻 Tuhin Chowdhury 🎧 Tuhin Armoy 🏠 Tuhin Chowdhury

EDUCATION

Shahjalal University of Science & Technology,

Bachelor of Science in Computer Science & Engineering

09/2017 – 04/2022 | Sylhet, Bangladesh

Overall CGPA : 3.27 / 4.00 (Final Year CGPA : 3.7/4.00)

Thesis : An Automatic System for Identifying and Categorizing Tribal Clothing Based on Convolutional Neural Networks

PUBLICATIONS

BLDAR: A Blending Ensemble Learning Approach for Primary Energy Consumption Analysis. (Book Chapter - 2025), Springer

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.

An Automatic System for Identifying and Categorizing Tribal Clothing Based on Convolutional Neural Networks (2022), IEEE

Developed a CNN-based system using the custom-made 'TribalBd' dataset to classify Bangladeshi tribal dresses, achieving 89.97% accuracy with YOLOv5, surpassing YOLOv6 (86.24%) and YOLOv7 (71.28%).

PROFESSIONAL EXPERIENCE

Software Engineer, Golden Harvest Infotech Limited

02/2023 – Present | Dhaka, Bangladesh

- Designed a RAG-based multi-agent system in the healthcare domain for processing and retrieving insights from medical data (prescriptions, reports, patient records)
- Developed a desktop application integrated with hardware camera (via SDKs) to capture customized images, perform real-time image analysis, and securely upload digitized church records in bulk to the cloud for auditing and data entry.

Software Engineer(Intern), Rokkhi IT Limited

06/2022 – 01/2023 | Dhaka, Bangladesh

Implemented an automated document processing feature by building a Java service that connects to an EasyOCR Python module, reducing manual data entry by over 50%

PROFESSIONAL PROJECTS

AI-Driven Hospital Management System ,(MHM, Houston , TX),

Tech Stack : Python, Openai 4 , ChromaDB, Mcp, N8N, Betterstack, AWS S3, PostgreSQL, Docker.

Built an AI-driven hospital management system with microservices and a RAG-based AI agent, reducing scheduling conflicts by 40% and improving patient support efficiency.

Church Census Records Archiving Project , (Family Search , Utah),

Tech Stack : C# , .NET 8 , WPF , GraphQL ,SQLite , XAML , Python , Nikon SDK

Engineered a high-throughput DSLR imaging system with real-time spatial analysis and line-segment validation, capturing 1000+ images per hour with minimal post-processing.

Invoice and Billing Documents Data Extraction,

Tech Stack: Python, PaddleOCR, LlamaIndex (Llama 3.1), OpenAI APIs, PyTorch

Built a high-accuracy OCR system, (PaddleOCR) with a Llama 3.1 agent for context-aware extraction of structured table data from large-scale documents.

Satellite Frequency Renting and Auto Billing System (Bangladesh Satellite Corporation , Dhaka),

Tech Stack : Java , Spring Boot , JasperSoft , Sendgrid , PostgreSQL

Developed a Spring Boot-based automated billing system for BSCL to calculate satellite frequency usage by TV channels on a pay-per-use model. Integrated JasperReports for dynamic invoice generation and reporting, reducing manual reporting efforts by 50%

SKILLS

Programming Languages

Python(Fluent), Java 21(Fluent), C++(Fluent), C(Fluent), C# (Basic)

Application Frameworks:

Spring Boot, FastAPI, .NET 8, Flutter, Android

AI, Machine Learning & Data Science:

MATLAB, PyTorch, TensorFlow, Scikit-Learn, LlamaIndex, Transformers, Pandas, Numpy, OpenCV, YOLO, HuggingFace

Tools & Platforms

AWS S3, PostgreSQL, Docker, Linux, CI/CD, Git, GitLab, Jasper Reports, LaTeX, Overleaf

ACHIEVEMENTS & HONOURS

Best Emerging Engineer Award , Golden Harvest Infotech Recognized for outstanding performance and innovative contributions to engineering projects.	2024 Dhaka, Bangladesh
Selected for Bangladesh-Japan Engineers Training Program , Miyazaki University Competitively selected for an international training program organized by Miyazaki University in collaboration with the Bangladesh Government, focused on advanced engineering practices and cross-cultural technical exchange.	2022 Miyazaki, Japan
Best IoT Project Recognition , University Course Project Awarded for developing an innovative Smart Home automation system.	2019 Sylhet, Bangladesh
First Prize, Intra-Batch Programming Contest , University Secured first place in competitive programming contest among batch peers.	2018 Sylhet, Bangladesh
First Prize, Essay Writing Competition , University Campus Secured first place in university-wide essay writing competition.	2017 Sylhet, Bangladesh
District Commissioner Scholarship Award , Academic Excellence 2016 Awarded scholarship for achieving GPA 5.0/5.0 in Higher Secondary Certificate examination.	2016 Chittagong, Bangladesh

TEACHING & MENTORSHIP

Java & Data Structures Instructor Mentored over 10+ students, resulting in improved programming skill and successful project completions.	
Instructor , Unmesh Academic Care Taught Mathematics and Physics to college-level students, delivering comprehensive lessons and supporting academic development.	Sylhet

PARTICIPATIONS

IEEE Computer Society Bangladesh Chapter Symposium Research abstract accepted for presentation.	11/2024
Fourth International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT) , IEEE Presented paper on Computer Vision	03/2022
Facebook Developer Circles Challenge META Participated in Chatbot-Developments Hackathons for Messenger Platform and placed in top 20 .	02/2021
ICPC Intra University Selection Programming Contest Our team ranked top 50 among 900 teams.	10/2019
Leading University National Programming Contest Team ranking was 72 out of 190 teams.	02/2018

EXTRACURRICULAR ACTIVITIES

Computer Society , General Secretary Organized the university's annual programming contest and coordinated departmental technical events.	11/2021 – 11/2022
Bohubrihi - Edtech Platform , Campus Director Organized programming sessions and workshops on behalf of Bohubrihi to enhance student skills.	01/2021 – 01/2022
SECPA - University Photography Club , 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.	01/2020 – 01/2022
HULT Prize SEC , Founding Campus Director Organized online seminars and programs to promote social entrepreneurship on campus.	01/2020 – 01/2021

REFERENCES

Ashraful Islam , <i>PhD Candidate</i> , Department of Computer Science, University of Regina, Canada Email : aiy497@uregina.ca
Md. Ariful Islam , <i>Chief Technical Officer & System Architect</i> , Golden Harvest Infotech Limited Email : arif@inspi8bd.com