Shahaharior Islam Chowdhury

Email — **Mobile** — **LinkedIn** — **Google Scholar** — **ResearchGate** — **ORCID** — **Portfolio**

EDUCATION

Bangladesh University of Business & Technology (BUBT), Dhaka, Bangladesh 2018 – 2025
B.Sc. in Computer Science & Engineering (CSE)
Thesis Title: Fish Diseases and Species Classification Using Transfer Learning.

EMPLOYMENT HISTORY

AMYRAH Research & Innovation Dhaka, Bangladesh
Research Coordinator 2025 – Present
Website: https://amayrahrnd.com

- Co-founded and helped establish a research and innovation organisation focused on AI research, technical education, and applied technology solutions.
- Lead research strategy and coordinate multidisciplinary projects across Artificial Intelligence, Machine Learning, NLP, Computer Vision, and Data Science.
- Develop and oversee industry, academic, and institutional collaborations to translate real-world challenges into research and technology initiatives.
- Design and oversee AI-focused courses, training programmes, workshops, and capacity-building initiatives for students, researchers, and professionals.
- Guide research teams in developing publications, prototypes, and AI solutions addressing challenges in healthcare, agriculture, finance, and other local domains.
- Oversee project planning, research quality, technical direction, documentation, and delivery across ongoing research and innovation programs.

Paris Childrens Dentistry Texas, USA
IT Administrator- Remote 2023 – 2026
More Info

- Designed and delivered comprehensive security courses for both Fornt and Back office.
- Conducted regular feedback sessions, addressing challenges and ensuring highest required security standard.
- Leading the back office (remote team) and maintaining the security regulations for the organization along with maintaining IT infrastructure for sales, marketing, and customer relationship management

Backdoor Private Limited Dhaka, Bangladesh
Developer – Python (Young Professional) 2022
More Info

- Developed and maintained Python-based backend services and REST APIs for enterprise and government projects, including Access to Information(a2i).
- Implemented API integrations, data processing workflows, and backend application features.
- Developed Cypress-based automated tests, reducing manual testing effort by approximately 20–25%.
- Debugged application issues and supported testing, deployment, and software release activities.
- Collaborated with development and QA teams across the development lifecycle.

RESEARCH INTERESTS

Machine Learning, Deep Learning, Natural Language Processing (LLM, Generative AI, Text Analysis), Image Processing (Classification, Object Detection, Medical Image Analysis), Cyber-security, Cognitive AI, Explainable Artificial Intelligence

AWARDS AND GRANTS

Tuition Fee Waiver, Bangladesh University of Business & Technology (BUBT) Dhaka, Bangladesh

- Awarded upto 10% tuition fee waiver in multiple semester for outstanding academic performance. 2021

PUBLICATIONS

Journal Papers

- **Classification of Freshwater Fish Diseases in Bangladesh Using a Novel Ensemble Deep Learning Model: Enhancing Accuracy and Interpretability** — Abdullah Al Maruf, Sinhad Hossain Fahim, Rumaisha Bashar,**Shaharior Islam Chowdhury**, and Zeyar Aung. *IEEE Access*, 2024. DOI: 10.1109/ACCESS.2024.3426041.

Conference Proceedings

- **Generative Adversarial Networks (GANs) for Crop Simulation and Enhancement: Exploring Synthetic Data for Agricultural Research** — Khandakar Rabbi Ahmed, **Shaharior Islam Chowdhury**, Saif Tasnim Chowdhury. *2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence & Networking (QPAIN)*, IEEE, 2026.
- **Solar PV Power Generation Forecasting Using an Attention-Based Bidirectional LSTM Network** — Saiful Islam, Khandakar Rabbi Ahmed, **Shaharior Islam Chowdhury**, and Sumaya Akter Shimu. *2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence & Networking (QPAIN)*, IEEE, 2026.
- **Attention-Guided Dual-Energy X-Ray Image Analysis for Prohibited Item Detection Using YOLOv11 and Transformer Fusion** — MD Rakibul Islam, Khandakar Rabbi Ahmed, **Shaharior Islam Chowdhury**, and others. *2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence & Networking (QPAIN)*, IEEE, 2026.
- **Real-Time Credit Card Fraud Detection Using Graph Attention Networks with Cost-Sensitive Learning** — Saiful Islam, Khandakar Rabbi Ahmed, **Shaharior Islam Chowdhury**, and others. *2026 IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence & Networking (QPAIN)*, IEEE, 2026.

For a full list of my publications, please visit: My Website (Including Pending Publications).

Articles Under Review

- **AttenFusion-Net: An Attention-Enhanced Deep Learning Framework for Automated Municipal Solid Waste Segregation — Shaharior Islam Chowdhury** (1st Author), *Environmental Science and Pollution Research*, **Scopus Q1** (Under Consideration).
- **Textile Wastewater COD Forecasting Using a Shock-Aware Explainable Gated Hybrid Framework — Shaharior Islam Chowdhury** (1st Author), *Soft Computing*, **Scopus Q2** (Under Consideration).

SKILLS

- **Programming & Software Development:** Python, Java, C++, C, PHP; object-oriented programming, modular design, and RESTful API development.
- **Machine Learning & Artificial Intelligence:** Supervised and unsupervised learning; deep learning architectures including CNNs, RNNs, and Transformers; model training, evaluation, and optimization.
- **Large Language Models (LLMs):** Fine-tuning and adaptation of transformer-based LLMs; prompt engineering; parameter-efficient tuning (e.g., LoRA-style methods); evaluation and error analysis of generative models.
- **Multimodal Learning & Fusion:** Design and analysis of multimodal models combining text, image, audio, and video; cross-modal fusion strategies, consistency analysis, uncertainty-aware fusion, and modality reliability assessment.
- **Natural Language Processing & Computer Vision:** Transformer-based NLP models, text classification, and semantic representation learning; image classification, object detection, and image segmentation using deep learning.
- **Explainable & Responsible AI:** Model interpretability using Grad-CAM, SHAP, and LIME; analysis of model uncertainty, bias, robustness, and decision reliability.
- **Frameworks & Libraries:** TensorFlow, PyTorch, OpenCV; Spring Boot, Spring Framework, Hibernate.
- **Model Deployment & MLOps:** Model serving using REST APIs; deployment of ML/LLM models on cloud and containerized environments; experiment tracking, versioning, and reproducible pipelines; monitoring and performance evaluation in production.
- **Data Science & Analytics:** Data cleaning and preprocessing, statistical analysis, data mining, visualization, and web scraping; relational databases (MySQL, Oracle).
- **Web & Backend Technologies:** HTML, CSS, JavaScript; Apache and Tomcat servers.
- **Software Engineering Practices:** Version control with Git; automated testing using Cypress; collaborative and scalable development workflows.
- **Development & Research Tools:** IntelliJ IDEA, PyCharm, VS Code, Android Studio, Google Colab; LaTeX and Overleaf for academic writing.

Language Proficiency

Bengali: Native Proficiency
English: Fluent (Medium of Instruction: English)

TALKS & PRESENTATIONS

Presentations:

- **2nd International Conference on Quantum Photonics, Artificial Intelligence and Networking (IEEE QPAIN 2026). Chattogram, Bangladesh**: Presented our research paper, "Generative Adversarial Networks (GANs) for Crop Simulation and Enhancement: Exploring Synthetic Data for Agricultural Research."
- **2nd International Conference on Quantum Photonics, Artificial Intelligence and Networking (IEEE QPAIN 2026). Chattogram, Bangladesh**: Presented our research paper, 'Real-Time Credit Card Fraud Detection Using Graph Attention Networks with Cost-Sensitive Learning."

For a full list of my talks, please visit: My Website.

REFERENCES

Tanvir Hassan Zoha
Assistant Attorney General & Prosecutor at
International Crimes Tribunal, Bangladesh.
Associate Professor
Daffodil International University
Dhaka, Bangladesh
LinkedIn: tanvir-hassan-zoha
Email: tanvir@backdoor.com.bd

Dr. Zeyar Aung
Associate Professor,
Department of Computer Science,
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Email: zeyar.aung@ku.ac.ae