

ABDULLAH IBNE HANIF AREAN

Dhaka, Bangladesh

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CAREER SUMMARY

AI researcher specializing in natural language processing, computer vision, and graph learning, with a strong focus on building trustworthy, explainable, and impactful intelligent systems. My work spans long-context reasoning, graph-based learning, multimodal AI, and low-resource NLP, with particular emphasis on developing practical AI solutions for real-world challenges. Beyond research, I am deeply committed to inclusive technology education in Bangladesh, where I have helped more than 2,000 individuals explore and engage with the transformative potential of technology.

EDUCATION

University of Dhaka

Januray 2020 – June 2025

B.Sc. in Computer Science & Engineering - CGPA - 3.90/4.00 (Top of Class)

Dhaka, Bangladesh

Rajuk Uttara Model College

June 2017 – July 2019

Higher Secondary School Certificate (Science) - GPA - 5.00/5.00

Dhaka, Bangladesh

Chatkhil Govt. Pach Gaon High School

January 2015 – May 2017

Secondary School Certificate (Science) - GPA - 5.00/5.00

Noakhali, Bangladesh

HONORS & AWARDS

- 2025: Dean's Award For Academic Excellence, Faculty of Engineering, University of Dhaka
- 2024: Champion, Inter University NLP Idea Competition, Linguistics Department, University of Dhaka
- 2024: 1st Runners Up, Bhashamul: Inter University NLP Competition, United International University
- 2024: 2nd Runners Up, DL Enigma 1.0: Inter University Deep Learning Competition, SUST
- 2024: 7th Position, Code Samurai 2024 Hackathon Final Round, University of Dhaka
- 2022: Finalist, Code Samurai 2022 Hackathon Final Round, University of Dhaka
- 2022: Best Volunteer Award, Dhaka University IT Society Annual Function
- 2019: 6th Position, Bangladesh Physics Olympiad Dhaka North Regional Round- Higher Secondary
- 2015: 16th Position, Bangladesh Physics Olympiad National Round - Junior
- 2012: Champion, Bangladesh Mathematical Olympiad Noakhali Region - Primary

FELLOWSHIPS & RESEARCH PROGRAMS

Information and Communication Technology Division, Government of Bangladesh

2025 – 2026

ICT Division Research Fellow — ICT Sector Research Fellowship

Dhaka, Bangladesh

- Selected as one of 26 students and researchers from universities in Bangladesh and abroad for the ICT Division Research Fellowship under the 2025–2026 fiscal year.
- Awarded the fellowship following a competitive national selection process involving research proposal screening, document verification, interview, and presentation before the selection and award committees.

AI Safety Research Fellowship

June 2026 – September 2026

AI Safety Research Fellow — Remote, Part-Time Intensive

Global

- Selected as one of 48 fellows for a 16-week AI safety research fellowship involving 12 mentors and 12 research projects.
- Contributing 20+ hours per week to a structured research program focused on methodology selection, baseline development, active experimentation, paper drafting, and final research release.
- Working through mentor-led quality gates and peer-driven research sprints to develop a submission-ready AI safety paper for fall conference deadlines.

WORK EXPERIENCE

The KOW Company

June 2025 – Present

Junior AI Researcher — Full Time - On-site

Dhaka, Bangladesh

- Developing graph-based pipelines and chain-of-thought reasoning to improve multimodal interpretation in Vision-Language Models (VLMs).
- Leading research on specialized VLMs for diagram understanding, addressing dataset and modeling limitations.
- Integrating explainable AI principles to address black box problems and enable deployment in safety-critical domains.

Nexaus

December 2025 – Present

Advisor- Part Time

Dhaka, Bangladesh

- Advising on digital transformation initiatives for EIIN-registered schools and colleges through Amar IMS, focusing on academic and administrative automation.
- Supporting SaaS-based business solutions for data collection, payment management, and operational efficiency.
- Providing consulting and academic advising to help deploy scalable, secure, and cost-effective IT solutions.

Sigmoix AI

July 2025 – Present

Co-Founder & CDOO - Part Time

United States (Remote)

- Co-leading the development of end-to-end AI systems designed to solve real enterprise problems with measurable business impact.
- Overseeing production-ready AI deployment pipelines for scalable enterprise integration.
- Working on AI, NLP, and research-backed intelligent systems to improve business automation and decision-making.

Cognitive Agents And Interaction Lab, CSE, University of Dhaka

January 2024 – May 2025

Research Assistant - Full Time

Dhaka, Bangladesh

- Collected Multiple Datasets in Bangla Language spanning more than 50 million Bangla Sentences.
- Built Multiple LLM based models for Bangla Summarization, Translation and other tasks.
- Worked on creating Hand Written Image Recognition For Bangla.

RoboFication LLC

April 2025 – May 2025

AI Research Associate - Part Time

United States (Remote)

- Worked on developing AI-driven tools using advanced techniques including large language models.
- Collaborated with engineers on automation, validation, and verification workflows.

D-Ready

April 2024 – August 2024

Software Engineer Intern - Part Time

UK (Remote)

- Worked on AI implementation in Fish Production
- Collaborated with the team to integrate AI solutions in real-time systems.

Masters Admission Program Project, University of Dhaka

May 2023 – August 2023

Freelance Software Developer - Part Time

Dhaka, Bangladesh

- Conducted interviews and system designing with stakeholders (teachers) to develop a system automating the Masters admission program at the University of Dhaka from scratch.
- Worked on backend and database development.
- Collaborated in a team to complete the project within the stipulated timeframe and maintained it throughout its lifecycle.

MetroScientific

September 2022 – December 2022

Software Engineer Intern - Part Time

Dhaka, Bangladesh (Remote)

- Worked on custom Linux kernel development for a storage device.
- Contributed to system-level programming in C to support low-level storage device functionality.
- Focused on improving storage device performance through kernel customization and system-level optimization.

PUBLICATIONS

Stroke-Level Connectivity Verification: Grounding Vision-Language Models Against Topology Hallucination

20th International Conference on Document Analysis and Recognition 2026 — Acceptance, Full Pdf

Authors: Abdullah Ibne Hanif Areat, Niamul Hassan Samin, Md Arifur Rahman, Renu Akter Suity, Juena Ahmed Noshin, Md Ashikur Rahman

- * Proposes Stroke-Level Connectivity Verification (SLCV), enforcing pixel-grounded proof of connectivity via continuous stroke paths in diagrams.
- * Introduces PaRCO, a modular architecture separating structural reconstruction, semantic reasoning, and constraint validation.
- * Establishes topology-aware verification as a reusable primitive for multimodal document understanding tasks.

SOMAJGYAAN: Evaluating LLMs on Bangla Culture and Social Knowledge

AACL-IJCNLP 2025 Findings — ACL-Anthology

Authors: Fariha Anjum Shifa, Muhtasim Ibteda Shochcho, **Abdullah Ibne Hanif Areat**, Mohammad Ashfaq Ur Rahman, Akm Moshir Rahman Mazumder, Ahaj Faiak, Md Fahim, M Ashraful Amin, Amin Ahsan Ali, AKMMAHBUBUR RAHMAN

- * Introduces a 4,234-question Bangla multiple-choice & Benchmarks open-source vs. closed-source LLMs; LoRA fine-tuning narrows gaps for open models but gaps remain.
- * Highlights non-STEM cultural and social knowledge coverage unique among existing Bangla datasets.

Automatic Vehicle Detection Using DETR: A Transformer-Based Approach for Navigating Treacherous Roads

arXiv Preprint Feb 2025

Authors: Istiaq Ahmed Fahad, **Abdullah Ibne Hanif Areat**, Nazmus Sakib Ahmed, Mahmudul Hasan

- * Proposed one of the first DETR-based frameworks for automatic vehicle detection in challenging driving environments, leveraging Co-DETR to improve supervision and feature learning.
- * Evaluated multiple DETR variants and YOLO baselines on the BadODD dataset, demonstrating improved robustness under diverse road, lighting, and weather conditions.
- * Introduced collaborative hybrid assignment training with auxiliary heads to enhance training efficiency and detection performance for real-world autonomous navigation systems.

PROJECTS

PressWiz | Web Application, Presentation, Thesis

June 2024 – March 2025

- * Engineered a web-based news aggregation platform that ingests, normalizes, and summarizes Bangla articles from multiple publishers in real time.
- * Designed and implemented *LongBanSum*, a T5-based transformer with combined local-global attention (TGlobal) optimized for long-sequence Bangla summarization.
- * Curated the **MASBA** corpus of 669,699 articles with multi-level human-written summaries, ensuring diverse, high-quality data for model training.

Meramot: Comprehensive Tech Services Platform | [GitHub](#)

January 2023 – June 2023

- * Collaborated on full-stack development of a centralized portal delivering on-demand IT support and solutions for common technical issues.
- * Led design of service workflows, created technical documentation, and maintained release cycles.
- * Implemented core services using Spring Boot, Spring MVC, and Java, integrating authentication, and RESTful APIs.

Climate Relief | [Presentation](#), [GitHub](#)

July 2022 – November 2022

- * Developed an Android application in Java to streamline disaster relief distribution and resource tracking in affected regions.
- * Designed a secure backend API and SQLite database schema to ensure data integrity, real-time updates, and offline resilience.

Upsthit: Ultimate Attendance Management System | [GitHub](#)

July 2022 – December 2023

- * Led end-to-end development of a scalable attendance management system, coordinating stakeholder interviews and requirement elicitation.

- * Implemented biometric and QR-code check-in features with JavaFX frontend, ensuring seamless user experience and data accuracy.

Hospice: Hospital Management Suite | [GitHub](#)

April 2022 – June 2022

- * Architected a modular hospital management system using JavaFX for the UI and MySQL for backend operations.
- * Developed patient registration, appointment scheduling, and inventory modules with secure role-based access control.

War of Independence-1971 (WOI-1971) Game | [GitHub](#)

May 2021 – August 2021

- * Created a C/C++ action game using SDL2 to honor Bangladeshi Freedom Fighters with historically inspired levels and narratives.
- * Implemented custom physics, sprite animations, and AI-driven enemy behaviors for an engaging gameplay experience.
- * Designed sound effects and a dynamic scoring system, and packaged builds for Windows and Linux distributions.

TECHNICAL SKILLS

Languages: C, C++, Java, Python, JavaScript, Dart

Frameworks & Libraries: React, Node.js, Flutter, Spring Boot, PyTorch, TensorFlow

Databases: MongoDB, PostgreSQL, SQLite

Computer Science Fundamentals: OOP, OS, Algorithms, Data Structures, Complexity Analysis

Systems & Architecture: Distributed Systems, Multi-tiered Systems, RDBMS Design, System Scalability

Problem Solving & Optimization: Mathematical Optimization (Linear/Nonlinear), Problem Decomposition, Abstract Thinking, Root Cause Analysis

Professional Attributes: Verbal/Written Communication, Adaptability, Agile Development, Fast Learner

AI & Machine Learning: ML (Supervised/Unsupervised, EDA, Feature Engineering), Deep Learning (NLP, CV, Transformers), Generative AI (GPT, BERT, RAG, Fine-tuning, Vector DBs), Agent Systems (LangChain, LangGraph, Orchestration)

EXTRACURRICULAR

Dhaka University IT Society (DUIITS)

May 2025 – April 2026

President, 11th Executive Committee

Dhaka, Bangladesh

- * Conducted sessions on PC building and basic computing, mastering Google search for academic excellence, and cybersecurity awareness for women.
- * Contributed actively to DUIITS' mission of promoting IT education, organizing events, workshops, and fostering collaboration among students and professionals.
- * Engaged in community-building, networking, and sharing IT expertise within the society.

Ministry of Health and Family Welfare, People's Republic of Bangladesh August 2024 – March 2025

Member, Health-Related Subcommittee

Dhaka, Bangladesh

- Collected and analyzed data on casualties and martyrs from the July Revolution, contributing to historical records and policy development collaborating with MIS.
- Student representative of Shaheed Suhrawardy Medical College and Led the Help Center of the July Shaheed Smrity Foundation

IEEE Computer Society

January 2024 – February 2025

Chair, IEEE CS SB DU EXCOM 2024

Dhaka, Bangladesh

- Leading the IEEE Computer Society Student Branch Executive Committee (Excom) at Dhaka University for the year 2024.
- Coordinating with the full committee to organize events, workshops, and seminars focused on science and technology.
- Promoting IEEE Computer Society initiatives and fostering collaboration among students and professionals.

REFERENCES

- Prof. Dr. Md. Mamun-Or-Rashid , Professor, Department of Computer Science and Engineering, University of Dhaka. Email: mamun@cse.du.ac.bd ; Phone: +8801811475201
- Dr. Md Mosaddek Khan, Associate Professor, Department of Computer Science and Engineering, University of Dhaka. Email: mosaddek@du.ac.bd ; Phone: +8801768408402
- Md Ashikur Rahman, Artificial Intelligence Lead, The Kow Company Ltd, Dhaka. Email: ashikur@thekowcompany.com ; Phone: +8801675964080