

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 potential of technology.

EDUCATION

University of Dhaka

Jan 2020 – February 2025

B.S. 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

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: 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

WORK EXPERIENCE

The KOW Company

June 2025 – Present

Junior AI Researcher - 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.

Cognitive Agents And Interaction Lab, CSE, University of Dhaka

January 2024 – May 2025

Research Assistant - On-site

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.

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 Arean, 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

Oct 2025

Authors: Fariha Anjum Shifa, Muhtasim Ibteda Shochcho, **Abdullah Ibne Hanif Arean**, Mohammad Ashfaq Ur Rahman, Akm Moshir Rahman Mazumder, Ahaj Faiak, Md Fahim, M Ashraf 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.

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.

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.

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 Smriti 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.
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- Dr. Md Mosaddek Khan, Associate Professor, Department of Computer Science and Engineering, University of Dhaka.
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