

ABDULLAH IBNE HANIF AREAN

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Education

University of Dhaka

M.Sc. in Computer Science & Engineering (Ongoing; Coursework Finished)

Thesis: Streaming Graph Recommendation with Drift-Gated Knowledge Control

July 2025 – Present

Dhaka, Bangladesh

University of Dhaka

B.Sc. in Computer Science & Engineering, CGPA: **3.90/4.00** (1st of 63)

January 2020 – June 2025

Dhaka, Bangladesh

Rajuk Uttara Model College

Higher Secondary School Certificate (Science), **GPA: 5.00/5.00**

June 2017 – July 2019

Dhaka, Bangladesh

Chatkhil Govt. Pach Gaon High School

Secondary School Certificate (Science), **GPA: 5.00/5.00**

January 2015 – May 2017

Noakhali, Bangladesh

Research Experience

PRISM, Research Fellow

Remote, Part time

June 2026 – Present

Global

- Designed a multi turn safety test for large language models in Bangla, Sinhala, Arabic, and Yoruba.
- Built a multilingual safety dataset and a score that is not a simple safe or unsafe label.

The KOW Company, Junior AI Researcher

Full time, on site

June 2025 – Present

Dhaka, Bangladesh

- First author on a method that checks stroke connectivity so vision language models do not invent topology. Oral at ICDAR 2026.
- Two Submitted WACV papers: Residual Stream Rebalancing (training-free hallucination control) and a Video QA grounding audit of vocabulary bias.
- Built DriftLA, a streaming graph recommender that uses graph neural networks and low rank adaptation submitted in IEEE Access.

Cognitive Agents and Interaction Lab, DU, Research Assistant

Full time, On site

January 2024 – May 2025

Dhaka, Bangladesh

- Collected MASBA (669K articles with layered summaries) and a Bangla corpus of more than 50 million sentences.
- Built Focal Context Attention for document level Bangla to English translation and summarization (CLARITY). Fine tuned T5 and mBERT with LoRA for summarization, translation, and other Bangla tasks.

Development Experience

Registered Graduate Enrollment Portal, University of Dhaka, Project Lead

*Part time **Live Link***

August 2026 – Present

Dhaka, Bangladesh

- Lead the development of the Registered Graduate Enrollment Portal, supporting enrolment, eligibility verification, and Senate election preparation.
- Implemented mobile OTP authentication, graduate record lookup, registration-based form pre-filling, eligibility checks, and public notices.

Masters Admission Program Project, University of Dhaka, Freelance Software Developer

*Part time **Live Link***

May 2023 – August 2023

Dhaka, Bangladesh

- Interviewed faculty stakeholders and designed and developed the backend and database to automate the Masters admission process.
- Collaborated with the team to deliver the project on schedule and maintained it throughout its lifecycle.

Research Works

Published and accepted

1. **Stroke-Level Connectivity Verification: Grounding Vision-Language Models Against Topology Hallucination.** Abdullah Ibne Hanif Arean, N.H. Samin, Md A. Rahman, R.A. Suity, J.A. Noshin, Md A. Rahman. **ICDAR 2026 [PDF]**
 - Checks stroke links on document diagrams so the model cannot invent connections.
2. **SOMAJGYAAN: Evaluating LLMs on Bangla Culture and Social Knowledge.** F.A. Shifa[†], M.I. Shochcho[†], **Abdullah Ibne Hanif Arean[†]**, M.A.U. Rahman, A.M.R. Mazumder, A. Faiak, Md Fahim, M.A. Amin, A.A. Ali, A. Rahman ([†]equal contribution). **AACL-IJCNLP 2025 Findings [ACL Anthology]**
 - A benchmark of Bangla culture and social facts for language model evaluation. Equal contribution.
3. **LocalTurn: Native Multi-Turn Safety Evaluation in Emirati Arabic, Bangla, Sinhala, and Yoruba.** Abdullah Ibne Hanif Arean, Fatma Egal, Fathima Raihaan Ihsan, Victor Tolulope Olufemi, Naiyarah Hussain. **NeurIPS 2026 Workshop LP4FM [PDF]**
 - Evaluates eight commercial LLMs through native multi-turn safety prompts, showing that safety rankings vary across languages and harm domains.

Under review

3. **CLARITY: Low-Resource Document-Level Translation and Summarization via Focal-Context Attention.** M. Hasan, **Abdullah Ibne Hanif Arean**, A.C. Partha, R.A. Rizvee, Md F. Arefin, I. Rahman, M.M. Khan. **Nature Scientific Reports [PDF]**
 - One model for document level Bangla to English translation and cross lingual summarization.
4. **Dependable Accountable Anonymity for Decentralized Identity via Zero-Knowledge Credential Binding and Threshold Tracing.** Abdullah Ibne Hanif Arean, M. Hasan, N.H. Samin, A. Suny, M.O. Rashid. **IEEE Transaction on Dependable and Secure Computing Submission [PDF]**
 - Keeps users anonymous until a set of parties agrees to trace them (Groth16).
5. **DriftLA: Low-Rank Streaming Adaptation with Drift-Gated Knowledge-Validity Control for Graph Recommendation.** Abdullah Ibne Hanif Arean, Md A. Rahman, N.H. Samin, Md A. Rahman, J.A. Noshin, M.O. Rashid, M.M. Khan. **IEEE Access Submission [PDF]**
 - Updates a graph recommender over time without erasing older knowledge.
6. **Residual Stream Rebalancing: Training-Free Hallucination Mitigation in Vision-Language Models.** Abdullah Ibne Hanif Arean, N.H. Samin, Md A. Rahman, R.A. Suity, J.A. Noshin, Md A. Rahman. **WACV 2027 Submission [PDF]**
 - Redistributes over-concentrated visual evidence in the residual stream to reduce VLM hallucinations without retraining.
7. **When Detector-Based Grounding Metrics Measure Vocabulary: A Cautionary Audit of Entity Claims in Video-QA Reasoning Traces.** Abdullah Ibne Hanif Arean, N.H. Samin, Md A. Rahman, R.A. Suity, J.A. Noshin, Md A. Rahman. **WACV 2027 Submission [PDF]**
 - Shows that detector-based grounding metrics often measure a model's vocabulary rather than its actual visual grounding ability.
8. **Intelligent Defense Systems in the Cyberbio Nexus: A Comprehensive Review of AI-Driven and Non-AI Biosecurity Capabilities, Vulnerabilities, and Future Trajectories.** Abdullah Ibne Hanif Arean, Mehadi Hasan, Ismat Rahman, Hafiz Md. Hasan Babu. **Artificial Intelligence Review Submission [PDF]**
 - Reviews conventional, AI-driven, and Quantum-AI defenses for securing connected biological data, models, laboratories, and physical workflows.
9. **When Should We Admit Generated Nodes? Utility-Guided Few-Shot Learning on Text-Attributed Graphs.** Abdullah Ibne Hanif Arean, Niamul Hassan Samin, Mehadi Hasan, Md Hasibul Amin, Md Ashikur Rahman. **ICLR 2027 Conference Submission [PDF]**
 - Selectively admits useful generated nodes using semantic, structural, and validation-derived signals to improve few-shot learning on text-attributed graphs.

Preprint

11. **Automatic Vehicle Detection Using DETR: A Transformer-Based Approach for Navigating Treacherous Roads.** I.A. Fahad, Abdullah Ibne Hanif Arean, N.S. Ahmed, M. Hasan. **arXiv, February 2025 [arXiv]**
· Detects vehicles on poor roads with DETR.

Research Methods and Technical Skills

VLMs	Multimodal reasoning, topology checks, hallucination control, residual stream analysis, chain of thought, grounding audits
NLP	Low resource translation and summarization, Focal Context Attention, LoRA and QLoRA, tokenization, sequence labeling
Graphs	Streaming graph updates, drift gated knowledge control, low rank adaptation, graph neural networks
Identity	Groth16 proofs, threshold tracing, credential binding, Circom, Solidity
Tools	Python, PyTorch, TensorFlow, HuggingFace, C/C++, Java, Git, Docker, Linux

Awards

2025 Dean’s Award for Academic Excellence, Faculty of Engineering, University of Dhaka
2024 Champion, Inter University NLP Idea Competition, Linguistics Dept., University of Dhaka
2024 1st Runner-Up, Bhashamul: Inter University NLP Competition, UIU
2024 2nd Runner-Up, DL Enigma 1.0: Inter University Deep Learning Competition, SUST
2024 7th Position, Code Samurai 2024 Hackathon, University of Dhaka
2022 Finalist, Code Samurai 2022 Hackathon, 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)

Extracurricular Activities

Dhaka University IT Society (DUITS), President, 11th Executive Committee May 2025 – April 2026
Dhaka, Bangladesh
· Conducted sessions in multiple auditoriums of the University of Dhaka on artificial intelligence, Google search for academic success, a basic PC building workshop, and cybersecurity for women. Reached more than 2,000 learners. Best Volunteer Award in 2022 and 2024.

Member, Health-Related Subcommittee, Ministry of Health and Family Welfare, People’s Republic of Bangladesh August 2024 – March 2025
Dhaka, Bangladesh
· Collected and analyzed data on casualties and martyrs from the July Revolution, contributing to historical records and policy development in collaboration with MIS.
· Served as the student representative of Shaheed Suhrawardy Medical College and led the Help Center of the July Shaheed Smrity Foundation.

IEEE Computer Society Student Branch, DU, Chair (EXCOM 2024) January 2024 – February 2025
Dhaka, Bangladesh
· Chaired the 2024 executive committee and ran science and technology workshops, seminars, and industry talks.

References

Prof. Dr. Hafiz Md. Hasan Babu, Professor, Department of Computer Science and Engineering, University of Dhaka. Email: ; Phone: +8801711351055
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