Aminur Rahman

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EDUCATION

Master of Science in Computer Science and Engineering 2025 - Ongoing
Chittagong University of Engineering and Technology (CUET)

Bachelor of Science in Computer Science and Engineering 2018 - 2023
Chittagong University of Engineering and Technology (CUET)
CGPA: **3.78** (with **honors**)/4.0
Merit Position: **10**th among 126 students

Higher Secondary Certificate 2015 - 2017
Shaheed Police Smrity College, Dhaka
GPA: **5.00**/5.00

Secondary School Certificate 2014 - 2015
Banani Model School, Dhaka
GPA: **5.00**/5.00

RESEARCH INTERESTS

Natural Language Processing | Large Language Models (LLMs)| Low-Resource Language Computing | Healthcare NLP | Multi-modal AI

RESEARCH EXPERIENCE

Founding Member & Researcher, KCR-Lab Oct 2024 - present

- Supervise undergraduate research in machine learning, deep learning, and computation linguistics
- Organize workshops, hands-on training to stablish students as experts in AI
- Mentor students in research methodology, experimental design, and publication writing
- Lead projects exploring natural language processing for low-resource languages
- Collaborate with faculty on interdisciplinary research initiatives

Undergraduate Thesis Researcher, CUET Feb 2022 - April 2023

- Title: "A Deep Learning Based Pharmaceutical Product Evaluation from Bengali Reviews Considering Emoji"
- Developed a benchmark dataset of 4000+ pharmaceutical product reviews
- Identified the Rating-Review discrepancy concern in E-commerce industry
- Proposed a novel approach to integrate emoji effects in text classification tasks
- Implemented ML and Hybrid Deep learning methods to classify user-generated reviews
- Justified a review to be in a particular rating category with reasoning
- Supervised by: Prof. Dr. Muhammad Ibrahim Khan

PUBLICATIONS

C=CONFERENCE, **J**=JOURNAL

[C.1] BScFilter: A Deep Learning Approach for Sports Comments Filtering in a Resource Constraint Language.
A. Rahman, M.I. Khan, M.M.H. Rifat
5th International Conference on Trends in Computational and Cognitive Engineering (TCCE 2023).

[C.2] Vision Transformers for Multi-Class Eye Disease Classification: Enhancing Early Detection in Resource-Constrained Healthcare
A. Rahman, M. Hasan, M.A. Mia, M.I. Khan
3rd International Conference on Big Data, IoT and Machine Learning (BIM 2025)

UNDER REVIEW PAPERS

C=CONFERENCE, **J**=JOURNAL

[J.1] Addressing Rating-Review Discrepancy in a Novel Dataset: An Explainable Pharmaceutical Product Evaluation using Multi-Stream Attention Transformer
A. Rahman, M.A. Mia, M.I. Khan, I.H. Sarker [**Preprint**]

[J.2] BanGRev: A novel Bengali tech gadget review corpus utilizing triple-pooling feature fusion with explainable AI
M.A. Mia, A. Rahman, M.I. Khan, I.H. Sarker [**Preprint**]

[C.1] Who's Next? An Interpretable Machine Learning Approach for Predicting Software Employee Turnover Tendency
A. Rahman, M.I. Hossain, M.A. Mia, M.I. Khan [**Preprint**]

[C.2] Prompting vs. Fine-tuning: Evaluating Bengali Violence Detection in a Low-Resource Setting
M.A. Mia, A. Hossain, A. Rahman, M.S. Mursalin, M.I. Khan [**Preprint**]

TEACHING & PROFESSIONAL EXPERIENCE

Lecturer, Department of CSE, Dhaka International University (DIU) Sep 2023 - present

- Teach undergraduate courses in Computer Science and Engineering
- Develop practical lab exercises focusing on implementation of theoretical concepts
- Supervise undergraduate students on academic and research projects
- Participate in curriculum development and course assessment activities

Software Engineer Intern, Dynamic Solution Innovators (DSI) Nov 2022 - Dec 2022

- Completed project on Railway Seat Reservation System [GitHub]
- Gained experience in software development life cycle and agile methodologies
- Collaborated with cross-functional teams on system design and implementation

RESEARCH PROJECTS

Diabetes Factor Analysis with Outlier Detection [GitHub]
Technologies: Scikit-learn, pandas, numpy, matplotlib, seaborn

- Applied statistical methods to identify significant factors affecting diabetes diagnosis
- Implemented outlier detection techniques to improve feature selection quality
- Employed ensemble methods (Random Forest, XGBoost) for enhanced prediction accuracy
- Achieved 2-4% overall performance increment with outlier removal

Sentiment Analysis on Twitter Texts [GitHub]
Technologies: Scikit-learn, NLTK, Transformers, Tkinter, pandas, matplotlib

- Developed a system for social media sentiment classification
- Implemented multiple feature extraction techniques (TF-IDF, word embeddings)
- Compared performance across classical ML and deep learning approaches
- Created interactive interface for real-time sentiment prediction

CUET-BUS-TRACKER: Real-time Transportation Monitoring System [GitHub]
Technologies: Java, Firebase, Google Maps API, Android Studio

- Designed and implemented location tracking system for university transport
- Built Android application with real-time updates for student convenience
- Integrated Google Maps API with Firebase for synchronous data updates

TECHNICAL SKILLS

Machine Learning: Scikit-learn, PyTorch, TensorFlow, Keras
Data Analysis: Pandas, NumPy, Matplotlib, Seaborn
Natural Language Processing: NLTK, SpaCy, Transformers
Programming Languages: Python, C, C++
Web Development: HTML, CSS, PHP
Database: MySQL, Firebase
Research Tools: LaTeX, Jupyter Notebooks
Languages: Bengali (Native), English (Fluent, IELTS: 6.5)
Version Control: Git

CERTIFICATES

Machine Learning
Stanford University

Python for Everybody Specialization
University of Michigan

Deep Learning Specialization (Three Courses)
DeepLearning.AI

Natural Language Processing with Classification and Vector Spaces
DeepLearning.AI

DeepLearning.AI TensorFlow Developer Specialization
DeepLearning.AI

Advanced Deep Learning with Keras
Datacamp

HONORS & AWARDS

Microsoft Virtual Hackathon 2022
Secured a position among the top 34 participants out of 625 teams

CUET-ETE DAY ML Competition
Secured 12th position in a machine learning contest arranged by Department of ETE, CUET

Best Poster Presenter
Won the best poster presenter award in Algorithm Design Course

ALPHA Tester for DeepLearning.AI
Selected as an Alpha Tester for course development at DeepLearning.AI

Government Technical Board Scholarship
Awarded each semester for academic excellence at CUET

PROFESSIONAL AFFILIATIONS & LEADERSHIP ROLES

Advisor, DIU Cyber Security Club Mar 2024 - present

- Guide and supervise students in various competitions and workshops
- Coordinate and organize training and skill sessions by inviting experts

Publication Secretary, CUET Computer Club Aug 2022 - Jun 2023

- Managed club publications
- Coordinated technical content creation

PROFESSIONAL DEVELOPMENT

- Workshop on *Bloom's Taxonomy, OBE, LOs & Attainments* (IQAC, DIU)
- Workshop on *Document Preparation for IEB* (Department of CSE, DIU)
- Workshop on *CO, PO Assessment and Course File Preparation* (Department of CSE, DIU)
- Workshop on *IoT-Based Smart Campus* (ICT Division and BD High-TECH park)
- Workshop on *Software Engineering: The Best Professional Practices* (Department of CSE, CUET and BrainStation23)

ADDITIONAL ACTIVITIES

- Executive Member, Workshop and Seminar Organizing Committee, DIU July 2024 - present
- Executive Member, Program Documentation & Newsletter Committee, DIU July 2024 - present
- Campus Ambassador, Scholarship School BD Aug 2020 - Jun 2023
- Content Writer, Engineers Diary Mar 2020 - present

REFERENCES

Dr. Muhammad Ibrahim Khan
Professor, Department of CSE, CUET
Thesis Supervisor
Contact: +880 1713-018506
Email: muhammad_ikhan@cuet.ac.bd

Dr. Mohammad Shamsul Arefin
Dean, Faculty of ECE, CUET
Course Instructor
Contact: +880 1716-890204
Email: sarefin@cuet.ac.bd