

Md. Abdur Rahman

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🔗 [borhanitrash](#) 🎓 [Google Scholar](#)

Education

Southeast University Oct 2021 – Present
BSc in Computer Science and Engineering
◦ **CGPA: 3.86/4.0**
◦ Relevant Coursework: Data Mining, Artificial Intelligence, Image Processing

Experience

Research Assistant Dhaka, Bangladesh
CAIR Lab, Southeast University June 2024 – Present
◦ Designed and implemented a custom CNN architecture for brain tumor classification with LIME using MRI dataset, achieving 99.89% classification accuracy, significantly outperforming standard pre-trained models.
◦ Designed a federated learning pipeline for multi-institutional Lung and Colon cancer classification with GradCAM, integrating a custom lightweight CNN model (380K parameters) with high accuracy of 99.94%.

Research Collaborator Dhaka, Bangladesh
Advanced Machine Intelligence Research Lab (AMIRL) March 2025 – Present
◦ Conducting an in-depth literature review for a forthcoming review paper on MRI-based brain tumor analysis, integrating recent progress in deep learning models for classification, detection, and segmentation tasks.

Publications

AlzFed-XAI: High-Fidelity Interpretable Alzheimer's Diagnosis with Privacy-Preserving Federated Learning (Accepted) [Paper] [🔗](#) [Code] [🔗](#)
Md. Abdur Rahman, Md. Tofael Ahmed Bhuiyan, Abdul Kadar Muhammad Masum

5th Muslims in ML Workshop co-located with NeurIPS 2025. [🔗](#)

Detecting Manipulation in Ukrainian Telegram: A Transformer-Based Approach to Technique Classification and Span Identification [Paper] [🔗](#) [Code] [🔗](#)
Md. Abdur Rahman, Md Ashiqur Rahman
Proceedings of the Fourth Ukrainian Natural Language Processing Workshop (UNLP 2025), Association for Computational Linguistics. [🔗](#)

MRAViT-XAI: A Novel Multi-Resolution Attention Vision Transformer Framework with Explainable AI for Enhanced Lung and Colon Cancer Classification [Paper] [🔗](#) [Code] [🔗](#)
Md. Abdur Rahman, Sabik Aftahee, Lamim Zakir Pronay, Md Ashiqur Rahman

IEEE International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN) [🔗](#)

SmolLab_SEU at BEA 2025 Shared Task: A Transformer-Based Framework for Multi-Track Pedagogical Evaluation of AI-Powered Tutors [Paper] [🔗](#) [Code] [🔗](#)
Md. Abdur Rahman, MD AL AMIN, Sabik Aftahee, Muhammad Junayed, Md Ashiqur Rahman
Proceedings of the 20th Workshop on Innovative Use of NLP for Building Educational Applications (BEA 2025), Association for Computational Linguistics. [🔗](#)

SmolLab_SEU at MAHED 2025: Do Arabic-Native Encoders Surpass Multilingual Models in Detecting the Nuances of Hope, Hate, and Emotion?(Accepted) [Paper] [🔗](#) [Code] [🔗](#)

Md. Abdur Rahman, Md Sabbir Dewan, Md. Tofael Ahmed Bhuiyan, Md Ashiqur Rahman

Proceedings of the Third Arabic Natural Language Processing Conference (ArabicNLP 2025), Empirical Methods in Natural Language Processing (EMNLP 2025). [🔗](#)

FAKD-XAI: Feature-Aligned Knowledge Distillation with Explainable AI for Efficient Brain Tumor Classification (Accepted & Presented)

[Paper] [🔗](#) [Code] [🔗](#)

Md. Abdur Rahman, Sabik Aftahee, Md Ashiqur Rahman, Lamim Zakir Pronay

International Conference on Data Science, AI and Applications (ICDSAIA) [🔗](#)

FedAvg-ResNet50: Privacy-Preserving Explainable Acute Leukemia Classification (Accepted)

[Paper] [🔗](#)

Md. Tofael Ahmed Bhuiyan, *Md. Abdur Rahman*, Zakir Hossain, Md. Fokrul Islam Khan, Abdul Kadar Muhammad Masum

5th International Conference on Applied Intelligence and Informatics (AII 2025, USA) [🔗](#)

PneumoniaXAttnNet: An Attention-Driven Xception Framework for Accurate Pneumonia Classification with XAI (Accepted)

[Paper] [🔗](#)

Tanvir Ahmed, *Md. Abdur Rahman*, Md. Delower Hossain, Yousuf Howlader, Md. Mahi Uddin, Md. Tajuddin, MD Illeas Hossain, Md. Mijanur Rahman

2nd IEEE Conference on Computing Applications and Systems (COMPAS 2025) [🔗](#)

CerviTrans-XAI: An Explainable Vision Transformer Ensemble for Accurate Cervical Cancer Classification (Accepted)

[Paper] [🔗](#)

Md. Delower Hossain, Md. Mijanur Rahman, *Md. Abdur Rahman*, Tanvir Ahmed, Sujay Dhar, Ornab Biswass

2nd IEEE Conference on Computing Applications and Systems (COMPAS 2025) [🔗](#)

SmolLab_SEU at CheckThat! 2025: How Well Do Multilingual Transformers Transfer Across News Domains for Cross-lingual Subjectivity Detection? (Accepted & Presented)

[Paper] [🔗](#) [Code] [🔗](#)

Md. Abdur Rahman, MD AL AMIN, Md Sabbir Dewan, Md Jahid Hasan, Md Ashiqur Rahman

CheckThat! Lab Workshop, 16th Conference and Labs of the Evaluation Forum [🔗](#)

Hinterwelt@LT-EDI 2025: A Transformer-Based Approach for Identifying Racial Hoaxes in Code-Mixed Hindi-English Social Media Narratives (Accepted & Presented)

[Paper] [🔗](#) [Code] [🔗](#)

Md. Abdur Rahman, MD AL AMIN, Sabik Aftahee, Md Ashiqur Rahman

LT-EDI Workshop, 5th Conference on Language, Data and Knowledge [🔗](#)

Hinterwelt@LT-EDI 2025: A Transformer-Based Detection of Caste and Migration Hate Speech in Tamil Social Media (Accepted & Presented)

[Paper] [🔗](#) [Code] [🔗](#)

MD AL AMIN*, Sabik Aftahee*, *Md. Abdur Rahman**, Md Sajid Hossain Khan, Md Ashiqur Rahman

LT-EDI Workshop, 5th Conference on Language, Data and Knowledge [🔗](#)

*Authors contributed equally to this work.

Under Review Publications

MangoLeafNet-XAI: An Attention-Enhanced Deep Learning Architecture for Accurate and Interpretable Mango Leaf Disease Classification

1st Author

Submitted to (*Engineering — Journal*)

FedMal-XAI: An Explainable Federated Vision Transformer Leveraging Knowledge Distillation for Privacy-Preserving Malaria Detection

2nd Author

Submitted to (*Information Fusion — Journal*)

ChakmaBridge: A Five-Way Parallel Corpus for Navigating the Script Divide in an Endangered Language

1st Author

Submitted to *Second Bangla Language Processing Workshop co-located with ACL-IJCNLP*

BhasaBodh: Bridging Bangla Dialects and Romanized Forms through Machine Translation

2nd Author

Submitted to *Second Bangla Language Processing Workshop co-located with ACL-IJCNLP*

SmishGuard: An Interpretable Transformer Ensemble Framework for Bangla Smishing Detection

1st Author

Submitted to *6th IEEE International Conference on Telecommunications and Photonics (ICTP 2025)*

X-ArsenicDistill: An Efficient and Interpretable Framework for Arsenicosis Classification via Knowledge Distillation

1st Author

Submitted to *28th International Conference on Computer and Information Technology (ICCIT 2025)*

Honors & Professional Activities

Kaggle Dataset Grandmaster (Best Rank: 30th in the world)

[Profile Link](#) 

1st Place, Fragments of Feeling: A Contextual Emotion Challenge (2025)

[GitHub Repo](#) 

2nd Place, CalorieQuest: Predicting Energy Burn with Data (2025)

[GitHub Repo](#) 

3rd Place, DU AI Challenge (2025)

[GitHub Repo](#) 

Honorable Mention in ICPC Online Preliminary Contest 2024

[Certificate Link](#) 

Reviewer, 20th Workshop on Innovative Use of NLP for Building Educational Applications (BEA), Co-located with 63rd Annual Meeting of the **Association for Computational Linguistics (ACL 2025)**

Reviewer, CheckThat!: Lab on Subjectivity, Fact-Checking, Claim Extraction & Normalization, and Retrieval, Co-located with 16th **Conference and Labs of the Evaluation Forum (CLEF 2025)**

Professional Certification

GitHub Foundations Certification
GitHub

Nov 2024 - Nov 2027 

Machine Learning Specialization
Stanford University

2024 

Google Advanced Data Analytics Specialization
Google

2024 

Mathematics for Machine Learning Specialization
Imperial College London

2024 

Skills

Programming Language: C, C++, Java, Python

Programming Framework: Pandas, NumPy, Matplotlib, Seaborn, PyTorch, HuggingFace, OpenCV

Technologies: Machine learning, Deep Learning, Computer Vision, Natural Language Processing (NLP), large language model (LLM), Git, GitHub, Microsoft Office, LaTeX