

Tashreef Muhammad

Low-resource NLP · XAI for Medical & Agricultural Imaging · Time-series Analysis

22 publications (13 peer-reviewed)

Citations: 131 GS / 55 Scopus

Contact

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🎓 [Google Scholar](https://scholar.google.com/citations?user=...)

Quick Stats

131 / 55

Citations (GS / Scopus, Oct 2025)

22 / 13

Publications / peer-reviewed

3+

Open datasets with DOIs

Focus

Bangla NLP (Low-resource)

Time-series Modeling

Transformers LLMs XAI

ViT Medical Imaging Plant Disease

Stack

Programming

Python · C++ · Java · MATLAB

ML Tooling

TensorFlow/Keras · scikit-learn · pandas · NumPy · Git · PyTorch

Open-source Engineering

- Active research repos across **NLP**, **time-series**, and **XAI**; tests/CI, containers, and readable docs.
- Maintainer of multi-team course galleries and several dataset/code releases.

Teaching

SEU: Computer Fundamentals · Structured Programming · Discrete Math · Data Structures · Numerical Methods · Embedded Systems

Highlights

- **Publications momentum:** 22 total (13 peer-reviewed); citations: 131 (GS) / 55 (Scopus).
- **Open datasets/benchmarks:** Vashantor (dialect→Bangla MT), ANCHOLIK-NER, DSE historical data with transformer code.
- **Time-series transformers** and **interpretable ML for medical imaging** as current research threads.
- **Open-source practice:** repos with tests/CI, containers, and clear READMEs; results documented and published online.
- **Teaching innovation:** integrated Git and L^AT_EX into core course-work; encouraged extracurriculars (e.g., competitive programming).

Education

B.Sc. in Computer Science & Engineering Ahsanullah University of Science and Technology (AUST) — 2017–2022

CGPA: 3.77/4.00. (3rd out of a batch of 150 students; top 2%)

Thesis: Hybrid Evolutionary and Machine Learning Approach for Stock Price Prediction and Investment Strategy Discovery: A Case Study on Dhaka Stock Exchange.

Selected Publications

- **Muhammad, T.** et al. (2023). Transformer-based deep learning model for stock price prediction: A case study on Bangladesh stock market. *International Journal of Computational Intelligence and Applications*. [DOI](#) · [Code](#).
- Paul, B., Preotee, F.F., **Muhammad, T.**, et al. (2024). Improving Bangla Regional Dialect Detection Using BERT, LLMs, and XAI. *IEEE COMPAS 2024*. [DOI](#).
- Shuvashis, S.S., Refat, S.R., Preotee, F.F., Islam, S., **Muhammad, T.**, et al. (2024). An Exploratory Approach Towards Investigating and Explaining Vision Transformer and Transfer Learning for Brain Disease Detection. *IEEE ICCIT 2024*. [DOI](#).
- Shuvashis, S.S., Refat, S.R., Preotee, F.F., **Muhammad, T.** (2024). Advanced CNN and XAI-based architecture for interpretable brain MRI analysis. *ACM ICCA 2024*. [DOI](#).
- Khandaker, M.A.A., Raha, Z.S., Islam, S., **Muhammad, T.** (2024). Explainable AI-Enhanced Deep Learning for Pumpkin Leaf Disease Detection: A Comparative Analysis of CNN Architectures. *IEEE ICCIT 2024*. [DOI](#).

Full list: [Google Scholar](#)

Mentoring & Supervision

- Supervise undergraduate research teams in NLP and XAI with an emphasis on reproducibility and clear documentation.

Service

- Reviewer: *International Journal of Computational Intelligence and Applications*; *PLOS ONE*; *International Journal of Information Technology & Decision Making*.
- Program coordination (CSE): schedules, exams, academic events.
- Southeast Computer Club: contests, workshops, tech fest; mentorship.

Languages

English — professional (IELTS Academic **8.0**, no band < 7.5; Oct 2025–Oct 2027)
Bangla — native

Awards

Dean’s List of Honor (AUST, 2022)
Merit-based scholarships (multiple)

Memberships

IEEE — Associate Member (2025-present)
ACM — Professional Member (2025-present)

Preprints & Under Review

- **Vashantor**: Large-scale multilingual benchmark for dialect→Bangla MT. (*submitted* to Elsevier *Array*).
- **ANCHOLIK-NER**: Bangla regional NER benchmark. (*submitted* to *PLOS ONE*).
- **BIDWESH**: Bangla regional hate-speech dataset. (arXiv).
- **VR-FuseNet**: Fundus fusion with explainable DR detection. (*submitted* to *Biomedical Materials and Devices*).

Open Datasets & Code

- **Vashantor** — Dialect→Bangla MT benchmark. *Dataset/Code*: [DOI \(Mendeley\)](#) · [GitHub](#).
- **ANCHOLIK-NER** — Regional NER for Bangla. *Dataset*: [DOI \(Mendeley\)](#).
- **DSE Historical + Stock Transformer** — DSE dataset + forecasting code. *Dataset/Code*: [DOI \(Mendeley\)](#) · [GitHub](#).

Academic Appointments

Lecturer Oct 2022–Present
Southeast University, Dhaka

- Supervise UG research in NLP, time-series, and XAI; public-facing repos and results.
- Course infrastructure: Practical and coding based walk through over course material.

Adjunct Faculty Feb 2022–Sep 2022
Ahsanullah University of Science and Technology, Dhaka

- Taught software development (MVC, C#).

Industry & Internship

IT Intern Dec 2021–Feb 2022
Akij Assets Limited, Dhaka

- Implemented ERP feature modules (requirements → release).
- Prototyped secure report generation from DB (policy and access controls).
- Integrated third-party APIs into ERP (auth, error handling, logging).