

Md Tanvir Rouf Shawon

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 shawon-tanvir.github.io/  Scholar Profile

Profile

- 2nd-year PhD student in Computer Science at George Mason University specializing in Large Language Models, medical NLP, and explainable AI. Experienced in multi-agent simulation frameworks and evaluation systems for healthcare AI. Passionate about building safe and reliable AI for real clinical use.
- Published 21 peer-reviewed research papers, including 2 Q1 journal articles, 1 Q2 journal article, and an EACL workshop paper.

Research Interests

Natural Language Processing, Health Informatics, Large Language Models, Machine Learning Application, Explainable Artificial Intelligence.

Skills

- **Programming Language:** *Python, Java, JavaScript, C, C++, PHP, HTML, CSS*
- **ML Tools:** PyTorch, Keras, Tensrflow, Scikit-learn, GANs, RAG
- **NLP:** Hugging Face, LangGraph, LangChain, GPT; **Visualization:** Matplotlib, Seaborn
- **Database:** MS SQL, MySQL, SQLite, Oracle PL SQL

Education

George Mason University
Ph.D. in Computer and Information Sciences

Fairfax, Virginia, USA
August 2024 - Current

Ahsanullah University of Science and Technology
B. Sc. in Computer Science and Engineering

Dhaka, Bangladesh
2016 - 2021

Notre Dame Colege, Dhaka
Higher Secondary Certificate

Dhaka, Bangladesh
2013 - 2015

Selected Publications

(* denotes equal contribution)

- **Md. Tanvir Rouf Shawon**, G. M. Shahariar Shibli, Farzad Ahmed & Sajib Kumar Saha Joy "**Explainable cost-sensitive deep neural networks for brain tumor detection from brain MRI images considering data imbalance**" in *Multimedia Tools and Applications, Springer*, 2025
- G. M. Shahariar Shibli*, **Md. Tanvir Rouf Shawon***, Faisal Muhammad Shah, Mohammad Shafiul Alam & Md. Shahriar Mahbub "**Bengali Fake Reviews: A Benchmark Dataset and Detection System**" in *Neurocomputing, Elsevier*, 2024
- Kazi Elahi, Tasnuva Rahman, Shakil Shahriar, Samir Sarker, **Md. Tanvir Rouf Shawon**, and G. M. Shibli "**A Comparative Analysis of Noise Reduction Methods in Sentiment Analysis on Noisy Bangla Texts**" in *9th Workshop on Noisy and User-generated Text (W-NUT 2024), EACL*, 2024
- G. M. Shahariar Shibli, **Md. Tanvir Rouf Shawon**, Anik Hassan Nibir, Md. Zayed Miandad & Nibir Chandra Mandal "**Automatic back transliteration of Romanized Bengali (Banglish) to Bengali**" in *Iran Journal of Computer Science, Springer*, 2023
- **Md. Tanvir Rouf Shawon**, G. M. Shahariar Shibli, Faisal Muhammad Shah, Mohammad Shafiul Alam & Md. Shahriar Mahbub "**Bengali Fake Review Detection using Semi-supervised Generative Adversarial Networks**" in *5th International Conference on Natural Language Processing (ICNLP), Guangzhou, China, IEEE*, 2023
- **Md Tanvir Rouf Shawon***, Raihan Tanvir* & Md. Golam Rabiul Alam "**Bengali Handwritten Digit**"

- Recognition using CNN with Explainable AI** in *4th International Conference on Sustainable Technologies for Industry 4.0 (STI)*, Dhaka, Bangladesh, IEEE, 2022
- Raihan Tanvir*, **Md Tanvir Rouf Shawon***, Md Humaion Kabir Mehedi, Md Motahar Mahtab & Annajiat Alim Rasel **"A GAN-BERT Based Approach for Bengali Text Classification with a Few Labeled Examples"** in *Distributed Computing and Artificial Intelligence*, 19th International Conference, L'Aquila, Italy, Springer, 2022
 - **MD Tanvir Rouf Shawon***, Raihan Tanvir*, Humaira Ferdous Shifa, Susmoy Kar & Mohammad Imrul Jubair **"Jamdani Motif Generation using Conditional GAN"** in *23rd International Conference on Computer and Information Technology (ICCIT)*, Dhaka, Bangladesh, IEEE, 2020

Research Grant

(CO-PI) Bengali Fake Review: A Benchmark Dataset and Detection System. 2022
Internal Research Grant supported by Committee for Advance Studies and Research (CASR), AUST

Conference Presentation

- Bengali Fake Review Detection using Semi-supervised Generative Adversarial Networks, *5th International Conference on Natural Language Processing (ICNLP)*, Guangzhou, China. [Presentation link: <https://youtu.be/rd5N6z5-H0U>] March 24-26, 2023
- Effectiveness of Transformer Models on IoT Security Detection in StackOverflow Discussions, *1st International Conference on Information and Communication Technology for Development*, Khulna, Bangladesh. [Presentation link: <https://youtu.be/Y4ntugjHEGM>] July 29-30, 2022

Teaching Experience

Ahsanullah University of Science and Technology (AUST)

Lecturer

June 2021 - July 2024

Department of Computer Science & Engineering

Courses: Soft Computing, Pattern Recognition, Algorithms, Object Oriented Programming

Awards & Achievements

- Dean's List of Honor, AUST 2021
- Government Scholarship, Sylhet 2010, 2013
- I-Genius, Grameenphone Prothom Alo Internet Festival 2013

Professional Activities

- Co-opt member (Extra Curricular Activities) - AUST CSE SOCIETY
- Coach, Aust.0Degree & AUST Samakal: ICPC Asia Dhaka Regional Onsite Contest
- Advisor of Cefalo CodeFiesta 2022: AUST Inter-University Programming Contest
- Organizer of Intra-AUST Programming Contest Spring 2019