MD. SABBIR HOSSEN

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OBJECTIVE

I am looking for a PhD position in a competitive academic environment where I can solve challenges in Machine Learning algorithms, particularly in Natural Language Processing and Computer Vision, contribute to cutting-edge research, and prepare for a career in advanced research in academia or industry.

EDUCATION

Bangladesh University — Mohammadpur, Dhaka-1207, Bangladesh
Bachelor of Science — *January 2020 - December 2023*
Department of Computer Science and Engineering — **CGPA: 3.66/4.00**

Thesis: A Sophisticated Feature Vectorization-Based Machine Learning Model to Identify Fake News in Bangla and English Language.

RESEARCH INTEREST

Machine Learning
Computer Vision
Natural Language Processing
Trustworthy AI
Multimodal AI
Large Language Models

EXPERIENCE

Research Assistant — *May 2023 - Present*
NextGen AI Lab, Bangladesh University. — Mohammadpur, Dhaka-1207, Bangladesh

- Designed and implemented machine learning models for several research projects.
- Collect, process, and analyze data to build machine learning models.
- Conducted Literature Reviews and wrote several Research Papers.
- Served as corresponding author for multiple research papers, handling reviewers' responses and revisions.
- Mentored and assisted three distinct groups of undergraduate students in their research methodologies, project execution, and manuscript preparation.
- Collaborated and coordinated with faculty, researchers, and fellow senior and junior graduate students from different universities and countries.

PUBLICATIONS

Md. Sabbir Hossen, Fahim Al Farid, Pabon Shaha, Md. Mowahibur Rahman Twake et al. "A Sophisticated Feature Vectorization-Based Stacked Machine Learning Approach for Fake News Detection in Bangla and English." *Social Network Analysis and Mining, 2025. https://doi.org/10.1007/s13278-025-01552-6*

Md. Sabbir Hossen, Md. Saiduzzaman, and Pabon Saha. "Social Media Sentiments Analysis on the July Revolution in Bangladesh: A Hybrid Transformer Based Machine Learning Approach." *In Proceedings of the IEEE 17th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), 2025*

Md. Sabbir Hossen, Pabon Shaha, and Md. Saiduzzaman et al. "An Explainable AI Driven Machine Learning Approach for Maternal Health Risk Analysis." *In Proceedings of the IEEE 27th International Conference on Computer and Information Technology (ICCIT), 2024*

Md. Sabbir Hossen, Md. Saiduzzaman, Pabon Shaha, and Mostofa Kamal Nasir. "Jellyfish Species Identification: A CNN Based Artificial Neural Network Approach." *In Proceedings of the IEEE 2nd International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN)*, 2025

Md. Sabbir Hossen, Pabon Saha, and Md. Saiduzzaman. "A Hybrid Machine Learning Approach Utilizing CNN Feature Extraction with Traditional Classifiers to Identify Strawberry Leaf Diseases." *In Proceedings of the IEEE 4th International Conference on Electrical, Computer and Communication Engineering (ECCE), 2025*

Eshat Ahmed Shuvo, Md Shuvon, Md. Nazmul Sarkar, and **Md. Sabbir Hossen** et. al. "Optimized Hybrid Cascaded Approach for Accurate Oral Cancer Detection in Histopathology Images Using Deep CNNs." *In Proceedings of the IEEE 2nd International Conference on Next-Generation Computing, IoT and Machine Learning (NCIM), 2025*

Md. Sabbir Hossen and Md. Saiduzzaman. "TransCNN: A Hybrid CNN–Transformer Synergy for Reliable Deepfake Forensics" *In Proceedings of the IEEE 28th International Conference on Computer and Information Technology (ICCIT), 2025* [Accepted]

Pabon Saha, **Md. Sabbir Hossen**, Md. Ibrahim Hosen Sojib, and Sanjida Akter et al. "StackTrace-AI: Identifying Generative AI Text Origins using Ensemble Learning" *In Proceedings of the IEEE 2nd International Conference on Computing, Applications and Systems (COMPAS), 2025* [Accepted]

Md. Emon Akter Sourov, **Md. Sabbir Hossen**, and Pabon Shaha et al. "An Explainable AI-Enhanced Machine Learning Approach for Cardiovascular Disease Detection and Risk Assessment" *In Proceedings of the IEEE International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN), 2025* [Accepted]

SUBMITTED MANUSCRIPTS

Md. Sabbir Hossen, Eshat Ahmed Shuvo, Shibbir Ahmed Arif, Pabon Shaha, and Anichur Rahman et al. "An Efficient Deep Learning Framework for Brain Stroke Diagnosis Using Computed Tomography (CT) Images," 2025 *[Manuscript under review for publication in a peer-reviewed Journal]*

Mohammad Shohel Parves, Pabon Saha, **Md. Sabbir Hossen**, and Bikash Kumar Paul et al. "ConvNet9: A Cutting-Edge Customized Convolutional Neural Network Model to Identify Potato Leaf Disease with Web Application," 2025 *[Manuscript under review for publication in a peer-reviewed Journal]*

Eshat Ahmad Shuvo, Wahidur Rahman, Pabon Shaha, and **Md. Sabbir Hossen** et al. "Optimized Hybrid Approach for Early Detection of Alzheimer's Disease Using Machine Learning and Deep Learning Techniques," 2025 *[Manuscript under review for publication in a peer-reviewed Journal]*

Pabon Saha, **Md. Sabbir Hossen**, Anichur Rahman, Mostofa Kamal Nasir et al. "Catching the Bots: A Transformer-Based Ensemble Learning for Machine-Generated Text Detection," 2025 *[Manuscript submitted for publication in a peer-reviewed Journal]*

Md. Sabbir Hossen, Md. Saiduzzaman, Pabon Shaha, and Bikash Kumar Paul. "Attention-Guided Deep CNN for Robust Image-Based Weather Phenomena Classification," 2025 *[Manuscript under review for publication in an IEEE Conference]*

AWARDS & ACHIEVEMENTS

Best Technical Presentation, 27th International Conference on Computer and Information Technology, 2024
1st Runner Up in Project Showcasing, Robo Carnival, BUET, 2023

CONFERENCE PRESENTATION

- TransCNN: A Hybrid CNN-Transformer Synergy for Reliable Deepfake Forensics at ICCIT,2025
- An Explainable AI Driven Machine Learning Approach for Maternal Health Risk Analysis at ICCIT, 2024
- Jellyfish Species Identification: A CNN Based Artificial Neural Network Approach. at QPAIN, 2025
- Social Media Sentiments Analysis on the July Revolution in Bangladesh: A Hybrid Transformer Based Machine Learning Approach at ECAI, 2025
- A Hybrid Machine Learning Approach Utilizing CNN Feature Extraction with Traditional Classifiers to Identify Strawberry Leaf Diseases, at ECCE, 2025

EXTRA-CURRICULAR ACTIVITIES

iTech Expo associated with Techfest IIT Bombay, IUBAT *November 2022*
Presented a project on Remote Control Fire Fighter Robot.
Robo Carnival, BUET January 2023
Presented a project on Green Energy E-Bike.
BEC Robo Mania, BUBT January 2023
Presented a project on an Integrated Smart Home.

PROFESSIONAL SKILLS

Programming Languages	**Python Libraries**	**Software Tools**
Python (Advanced)	Pandas, NumPy	Microsoft Office
C (Intermediate)	MatplotLib, Seaborn	Git & Github
C++ (Basic)	SciKit Learn, PyTorch	Adobe PS
Java (Basic)	TensorFlow/Keras	Mendeley
SQL (Basic)	HuggingFace Transformer	LaTeX

TEST SCORE

IELTS **7.0** [Listening: 8.0, Reading: 7.5, Writing: 6.5, Speaking: 6.0]