Mir Sazzat Hossain

Email: mirsazzathossain@gmail.com

Homepage: mirsazzathossain.me

Google Scholar: scholar/HriPgEQAAAAJ

Github: github.com/mirsazzathossain

Education

Independent University, Bangladesh   Jan 2017 − Apr 2021

*Bachelor of Science in **Computer Science and Engineering***   *Dhaka, Bangladesh*

*Minor in **Engineering Mathematics***

*CS & Math GPA: **3.81/4.0** (Overall CGPA: **3.64/4.0**)*

Research Experience

Post-baccalaureate Research Assistant   **Feb 2022 − Present**

Center for Computational & Data Sciences, Independent University, Bangladesh   *Dhaka, Bangladesh*

- **Research Interests:** Vision–language models, domain adaptation, federated learning, and medical imaging. Working on and co-supervising undergraduate theses and center-led projects in these areas.

- **Teaching Support:** Introduction to Programming, Data Structures, AI, ML, and Image Processing.

- **Publications:** Q1 Journals x2, WACV (A), ICIP ×3 (B), AACL (B), IJCNN (B), and multiple workshop papers, including one in AAAI.

Publications

(C) Md Fahim, Md Farhan Ishmam, **Mir Sazzat Hossain**, Md. Ashraful Amin, Amin Ahsan Ali, and A K M Mahbubur Rahman. "**R-MMA: Enhancing Vision-Language Models with Recurrent Adapters for Few-Shot and Cross-Domain Generalization**" accepted at the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2026). [**CORE Rank: A**] [Paper]

(C) **Mir Sazzat Hossain**, AKM Mahbubur Rahman, Md. Ashraful Amin and Amin Ahsan Ali. "**Lightweight Recurrent Neural Network for Image Super-Resolution**" 2024 IEEE International Conference on Image Processing (ICIP), Abu Dhabi, United Arab Emirates, 2024, pp. 1567–1573, DOI: 10.1109/ICIP51287.2024.10647844. [**CORE Rank: B**] [Paper] [Code]

(C) Rakibul Hasan Rajib, Md Akil Raihan Iftee, **Mir Sazzat Hossain**, A K M Mahbubur Rahman, Sajib Mistry, Md. Ashraful Amin and Amin Ahsan Ali. "**FedCTTA: A Collaborative Approach to Continual Test-Time Adaptation in Federated Learning**" 2025 International Joint Conference on Neural Networks (IJCNN), Rome, Italy, 2025, pp. 1-8, DOI: 10.1109/IJCNN64981.2025.11228519. [**CORE Rank: B**] [Paper] [Code]

(C) **Mir Sazzat Hossain**, Ovi Paul, Md Akil Raihan Iftee, Rakibul Hasan Rajib, Abu Bakar Siddik Nayem, Anis Sarker, Md. Ashraful Amin, Amin Ahsan Ali, and A K M Mahbubur Rahman. "**BD Open LULC Map: High-Resolution Land Use Land Cover Mapping & Benchmarking for Urban Development in Dhaka, Bangladesh**" 2025 IEEE International Conference on Image Processing (ICIP), Anchorage, Alaska, USA, 2025, pp. 2808–2813, DOI: 10.1109/ICIP55913.2025.11084396. [**CORE Rank: B**] [Paper]

(C) Newaz Ben Alam, Akm Moshiur Rahman Mazumder, **Mir Sazzat Hossain**, Mysha Samiha, Md Alvi Noor Hossain, Md Fahim, Amin Ahsan Ali, Ashraful Islam, M Ashraful Amin, and Akmmahbubur Rahman. "**CMBan: Cartoon-Driven Meme Contextual Classification Dataset for Bangla.**" In Proceedings of the 14th International Joint Conference on Natural Language Processing and the 4th Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics, pages 2178–2194, Mumbai, India. The Asian Federation of Natural Language Processing and The Association for Computational Linguistics. [**CORE Rank: B**] [Paper]

(C) **Mir Sazzat Hossain**, K M B Asad, Payaswini Saikia, Adrita Khan, Md Akil Raihan Iftee, Rakibul Hasan Rajib, A K M Mahbubur Rahman, Arshad Momen, Jewel Kumar Ghosh, Amin Ahsan Ali, and Md. Ashraful Amin. "**RGC-Bent: A Novel Dataset for Bent Radio Galaxy Classification**" 2025 IEEE International Conference on Image Processing (ICIP), Anchorage, Alaska, USA, 2025, pp. 2868–2873, DOI: 10.1109/ICIP55913.2025.11084387. [**CORE Rank: B**] [Paper] [Code]

(J) Fahim Mahafuz Ruhad, Md Fahim, **Mir Sazzat Hossain**, Md Fahad Monir, Md. Ashraful Amin, and Ashraful Islam, "**Beyond Classification: Benchmarking Object Detection Models for Efficient Tomato Leaf Disease Identification on a Real-World Dataset**" in Elsevier Smart Agricultural Technology, vol. 12, pp. 101336, 2025, DOI: 10.1016/j.atech.2025.101336. [**Q1 Journal**] [Paper]

(J) Team BD Lensing. "**Investigating the Relation Between Environment and Internal Structure of Massive Elliptical Galaxies Using Strong Lensing**" in Astronomy & Astrophysics (A&A), vol. 699, pp. A259, 2025, DOI: 10.1051/0004-6361/202453239. [**Q1 Journal**] [Paper] [Project]

(W) Rafid Ahmed, Intesar Tahmid, **Mir Sazzat Hossain**, Tasnimul Hossain Tomal, Md Fahim, Md Farhad Alam. "**How Good LLMs Are at Answering Bangla Medical Visual Questions? Dataset and Benchmarking**" accepted at the AI for Medicine and Healthcare AAAI Bridge Program 2026. [Paper]

(W) Md Mahir Jawad, Rafid Ahmed, Ishita Sur Apan, Tasnimul Hossain Tomal, Fabiha Haider, **Mir Sazzat Hossain**, and Md Farhad Alam Bhuiyan. "**Benchmarking Large Language Models on Bangla Dialect Translation and Dialectal Sentiment Analysis**". In Proceedings of the Second Workshop on Bangla Language Processing (BLP-2025), pages 322–337, Mumbai, India. Association for Computational Linguistics. [**Received Best Long Paper Award**] [Paper] [Award]

(W) Tasnimul Hossain Tomal, Anam Borhan Uddin, Intesar Tahmid, **Mir Sazzat Hossain**, Md Fahim, and Md Farhad Alam Bhuiyan. "**LP-FT-LoRA: A Three-Stage PEFT Framework for Efficient Domain Adaptation in Bangla NLP Tasks**". In Proceedings of the Second Workshop on Bangla Language Processing (BLP-2025), pages 212–222, Mumbai, India. Association for Computational Linguistics.[Paper]

(W) **Mir Sazzat Hossain**, Sugandha Roy, K M B Asad, Arshad Momen, Amin Ahsan Ali, Md. Ashraful Amin and AKM Mahbubur Rahman. "**Morphological Classification of Radio Galaxies Using Semi-Supervised Group Equivariant CNNs**" in Procedia Computer Science, vol. 222, pp. 601–612, 2023, ISSN: 1877-0509, DOI: 10.1016/j.procs.2023.08.198. [Paper] [Code]

Under-review Papers

(C) Md Akil Raihan Iftee, **Mir Sazzat Hossain**, Rakibul Hasan Rajib, A K M Mahbubur Rahman, Tariq Iqbal, Md Mofijul Islam, Md. Ashraful Amin, and Amin Ahsan Ali. "**SloMo-Fast: Slow-Momentum and Fast-Adaptive Teachers for Source-Free Continual Test-Time Adaptation**" submitted to the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2026). [**CORE Rank: A***] [Paper] [Code]

(C) Md Akil Raihan Iftee, Syed Md. Ahnaf Hasan, **Mir Sazzat Hossain**, Rakibul Hasan Rajib, Amin Ahsan Ali, AKM Mahbubur Rahman, Sajib Mistry, and Monowar Bhuyan. "**pFedBBN: Personalized Federated Test-Time Adaptation with Balanced Batch Normalization for Class-Imbalanced Data**" submitted to the International Conference on Learning Representations (ICLR 2026). [**CORE Rank: A***] [Paper]

(J) **Mir Sazzat Hossain**, Md Shahadat Hossain Shahal, K M B Asad, Payaswini Saikia, Adrita Khan, Fatema Akter, Amin Ahsan Ali, Md. Ashraful Amin, Arshad Momen, and A K M Mahbubur Rahman. "**RGC: A Radio AGN Classifier Based on Deep Learning: I. A Semi-Supervised Model for the VLA Images of Bent Radio AGNs**" submitted to Astronomy & Astrophysics (A&A). [**Q1 Journal**] [Paper] [Code]

(J) Md Raqibul Islam, Adrita Khan, **Mir Sazzat Hossain**, Choudhury Ben Yamin Siddiqui, Md. Zakir Hossan, Tanjib Khan, M. Arshad Momen, Amin Ahsan Ali, and AKM Mahbubur Rahman. "**E-PCN: Jet Tagging with Explainable Particle Chebyshev Networks Using Kinematic Features.**" submitted to the Journal of High Energy Physics. [**Q1 Journal**] [Paper]

Teaching Experience

Post-baccalaureate Teaching Assistant | **May 2021 − Jan 2022**

Independent University, Bangladesh, Dept. of Computer Science and Engineering | *Dhaka, Bangladesh*

- Prepared the lab materials, provided programming support, and addressed student queries during lab sessions for Neural Networks and Data Mining course.

Undergraduate Teaching Assistant | **Oct 2019 − Apr 2021**

Independent University, Bangladesh, Department of Physical Sciences | *Dhaka, Bangladesh*

- Offered one-on-one tutoring to struggling students from various disciplines at Math Tutorial Center.

- Worked with other tutors to manage the center and make sure students got the support they needed.

Selected Projects

LLM Based Automated Website Vulnerability Scanner | **June 2025**

- Worked on an automated web vulnerability scanner for autonomous reconnaissance, scanning, and vulnerability detection. Integrated a browser agent to simulate attacks (e.g., SQL injection, DDoS). [Link]

Predicting Restaurant Orders with USTGCN | **January 2021**

- Built a tool to forecast the number of orders a restaurant would receive the next day based on the last 7 days of order data, using a unified spatio-temporal graph convolutional network. [Github]

RGC - Python Package | **November 2020**

- Created a Python package for preprocessing radio signals received from radio telescopes to produce clean, noise-free images and classify them using established machine learning models. [Github]

Awards, Honors & Achievements

- Received the **Best Long Paper Award** - BLP Workshop @ IJCNLP–AACL 2025. [Credentials]
- Received the **IEEE Signal Processing Society Travel Grant** of **US \$1,000** for joining the **2024 IEEE ICIP** in Abu Dhabi, UAE (October 27-30). [Credentials]
- IUB academic honors: **VC's List (3×)**, **Dean's Merit List**, and **Dean's List**. [Credentials]
- **Winner:** Intra IUB Tech Fest Programming Contest (Summer 2019) and ACM Week Code Debugging Contest (2019). [Tech Fest] [ACM Week]
- Represented IUB in the **ICPC Asia Dhaka Regional 2019** and participated in various workshops, programming contests, and Olympiads. [ICPC] [Extracurricular Activities]

Relevant Coursework

Artificial Intelligence, Machine Learning, Image Processing, Numerical Methods, Linear Algebra and Differential Equation, Multivariable Calculus, Ordinary Differential Equation, Boundary Value Problem

Standardized Tests

- **IELTS**: Overall 7.0 (Reading - 8.0, Listening - 7.5, Speaking - 7.0, Writing - 6.0)

Technical Skills

- **Languages**: Python, C++, C, JavaScript
- **Libraries**: PyTorch, PyTorch-Lightning, LLaMA-Factory, Hugging Face, Flower, Scikit-learn
- **Web Frameworks**: NextJs, React, Django, Laravel
- **Miscellaneous**: Git, Docker, Apptainer, HTCondor, Slurm, MATLAB, LaTeX

References

Md Ashraful Amin, PhD
Professor
Dept. of Computer Science & Engineering
Independent University, Bangladesh
Email: aminmdashraful@iub.edu.bd
Website: iub.ac.bd/faculties/aminmdashraful

Amin Ahsan Ali, PhD
Professor
Dept. of Computer Science & Engineering
Independent University, Bangladesh
Email: aminali@iub.edu.bd
Website: iub.ac.bd/faculties/aminali

AKM Mahbubur Rahman, PhD
Associate Professor & Head of the Department
Dept. of Computer Science & Engineering
Independent University, Bangladesh
Email: akmmrahman@iub.edu.bd
Website: iub.ac.bd/faculties/akmmrahman