Mir Sazzat Hossain

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Education

Independent University, Bangladesh   **Jan 2017 – May 2021**

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

Minor in Engineering Mathematics

CGPA: 3.64 / 4.00

Research Experience

Research Assistant   **Feb 2022 – Present**

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

- One published paper, One paper submitted, and Two papers in preparation.
- Actively working on two projects: (1) Protein Surface Modeling and (2) Particle Identification in ALICE Experiment using Deep Learning.
- Conducted tutorial classes for Introduction to Computer Programming (CSC101), Fundamentals of Computer System (CIS101), and Data Structure (CSE203) as part of the Dean's Office Coding for All initiative.
- Assisted Dr. Amin Ahsan Ali in teaching the lab for Numerical Methods (CSE317), including designing lab assignments and worksheets, conducting the lab, and assessing lab assignments.
- Provided guidance and support to undergraduate students at the center in their final year thesis projects.

Teaching Experience

Teaching Assistant   **Sep 2021 – Dec 2021**

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

- Assisted Dr. A K M Mahbubur Rahman in a numerical methods lab course, guiding students on using Python for numerical applications.
- Redesigned the lab materials of the course from MATLAB to Python in alignment with the course objectives, making it an introduction to Python-based courses (AI, ML, etc.).
- Offered support during lab sessions, aiding students in resolving queries and enhancing their understanding of the material.

Undergraduate Teaching Assistant   **Sep 2020 – Dec 2020**

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

- Worked as a part-time tutor at Math Tutorial Center, designed to assist students struggling with math concepts.
- Provided one-on-one support to students across various disciplines, addressing their specific challenges and improving their understanding of math.
- Collaborated with a team to manage the center and ensure students received necessary assistance.

Publications and Preprints

- **Mir Sazzat Hossain**, Sugandha Roy, K M B Asad, Arshad Momen, Amin Ahsan Ali, M Ashraful Amin and A K M 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: https://doi.org/10.1016/j.procs.2023.08.198. [Paper]

- **Mir Sazzat Hossain**, AKM Mahbubur Rahman, Md. Ashraful and Amin Amin Ahsan Ali. "**Lightweight Recurrent Neural Network for Image Super-Resolution**" submitted in 2024 IEEE International Conference on Image Processing.

- Fahim Mahafuz Ruhad, Md Fahim, **Mir Sazzat Hossain**, Md Fahad Monir and Ashraful Islam. "**Comparative Performance Analysis of YOLO Models For Tomato Leaf Disease Detection**" submitted in 27th International Conference on Pattern Recognition (ICPR), 2024.

- **Mir Sazzat Hossain**, K M B Asad, Payaswini Saikia, Arshad Momen, Amin Ahsan Ali, M Ashraful Amin, Jewel Kumar Ghosh and A K M Mahbubur Rahman. "**RGC: Exploring Bent Galaxies - Semi-Supervised Classification via EquivariantCNN**" in preparation to submit in Astronomy & Astrophysics Journal.

- Sulyman Hossain et al. "**Lens models of galaxy–galaxy strong lenses**" in preparation to submit in Astronomy & Astrophysics Journal.

Awards and Honors

- Awarded placement on the Vice Chancellor's List at Independent University, Bangladesh (IUB) three times in Spring 2021, Autumn 2020, and Summer 2020 for consistently maintaining a GPA of 3.50 or above across three consecutive semesters each time. [Credentials]
- Recognized on the Dean's Merit List at IUB in Spring 2020 for achieving a CGPA of 3.50 or more for two successive semesters. [Credential]
- Earned a spot on the Dean's List at IUB in Autumn 2019 for achieving a high academic standard with a CGPA of 3.50 or more in a semester. [Credential]

Extracurricular Activities

- Represented IUB in The 2019 ICPC Asia Dhaka Regional Contest. [Credential]
- Winner of the Intra IUB Tech Fest Programming Contest, Summer 2019. [Credential]
- Winner of the 2019 Intra IUB ACM Week Code Debugging Contest. [Credential]
- Actively participated in various workshops, programming challenges, and Olympiads. [Credentials]

Relevant Coursework

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

Technical Skills

- **Languages**: Python, C++, C, JavaScript
- **Libraries**: PyTorch, PyTorch-Lightning, TensorFlow, Scikit-learn, Pandas, NumPy, OpenCV, Matplotlib, Seaborn
- **Web Frameworks**: NextJs, React, Django, Laravel
- **Miscellaneous**: Git, Docker, MATLAB, LaTeX

References

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