Mustafizur Rahaman

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EDUCATION

Saint Louis University   **MO-63103, USA**
MSc. in Geographic Information Scinece   *Aug 17 2023 - May 30 2025*
Trail: GeoAI
- CGPA – **3.92/4**

North South University   **Dhaka, Bangladesh**
BSc. in Computer Science and Engineering   *Jan 2017 - April 2021*
Trail: Artificial Intelligence
- CGPA – **3.74/4**

RESEARCH INTERESTS

Computer Vision; Deep Learning; Remote Sensing; Multimodal AI; Geospatial Machine Learning; Geostatistics

PUBLICATION

- *"Self-Supervised Learning for Soybean Disease Detection Using UAV Hyperspectral Imagery"*, **Mustafizur Rahaman**, Vasit Sagan, Felipe A. Lopes, Haireti Alifu, Cagri Gul, Kannappan Palaniappan, **Remote Sensing** , *MDPI*, **IF: 4.1**
  DOI : $10.3390/rs17233928$

- *"Blockchain for medical collaboration: A federated learning-based approach for multi-class respiratory disease classification, Abdulla All Noman"*, **Mustafizur Rahaman**, Tahmid Hasan Pranto, Rashedur M Rahman, **Healthcare Analytics**, *Elsevier*, **IF: 7.2.**
  DOI : $10.1080/01969722.2021.2018545$

- *"Effects of Label Noise on Performance of Remote Sensing and Deep Learning-Based Water Body Segmentation Models"*, **Mustafizur Rahaman**, Md Monsur Hillas, Jannatul Tuba, Jannatul Ferdous Ruma, Nahian Ahmed, Rashedur M Rahman, **Cybernetics and Systems**, *Taylor & Francis*, **IF: 2.42.**
  DOI : $10.1080/01969722.2021.1989171$

- *"A Blockchain, Smart Contract and Data Mining Based Approach toward the Betterment of E-Commerce, Tahmid Hasan Pranto, Abdulla All Noman"*, **Mustafizur Rahaman**, AKM Bahalul Haque, AKM Najmul Islam, Rashedur M Rahman, **Cybernetics and Systems**, *Taylor & Francis*, **IF: 2.42.**
  DOI : $10.1080/01969722.2021.2018545$

- *"Study of Machine Learning Techniques on Accident Data"*, Zakaria Shams Siam, Rubyat Tasnuva Hasan, Soumik Sarker Anik, Ankit Dev, Sumaia Islam Alita, **Mustafizur Rahaman**, Rashedur M Rahman, **International Conference on Computational Collective Intelligence**,2020, **Acceptance Rate: 22%**,
  DOI : $10.1007/978 - 3 - 030 - 63119 - 2_3$

TEACHING & RESEARCH EXPERIENCE

Laboratory Instructor   **Dhaka, Bangladesh**
North South University   *Sep 2021-Nov 2022*
Dept of Electrical and Computer Engineering

Course: CSE231: Digital Logic Design, CSE115: Programming Language I
- Conducting the lab classes of the enrolled undergraduate students
- Prepare lab Manuals, lecture materials and exam questions for the lab courses
- Conducting and grading all Lab related assessments (Assignment, Quiz, Mid, Final, Viva)

Teaching Assistant(TA)   **Dhaka, Bangladesh**
North South University   *Apr 2019-Sep 2021*
Dept of Electrical and Computer Engineering

Course: CSE225:Data Structure and Algorithm, CSE332:Computer Organization and Architecture
- Conducted tutorial sessions for students needing extra help outside of class hours by holding weekly office hour.
- Graded assignments, home works and projects of undergraduate students.
- Assisted faculty members with their course related works like record-keeping and grading.

Research Assistant   **Dhaka, Bangladesh**
North South University   *Jan 2021- Dec 2021*
Dept of Electrical and Computer Engineering

- I have worked under the supervision of **DR. MOHAMMAD RASHEDUR RAHMAN**
- The project was based on the detecting the label noise in Satellite based Remote sensing image mapping.
- We have published a journal paper on cybernetics and systems

PROGRAMMING SKILL

- **Programming Language:** Python, C, C++, JAVA, R
- **ML Libraries:** Pytorch, TensorFlow, Keras, Pandas, Numpy, Matplotlib, Scikit-Learn
- **Geospatial Library:** TorchGeo, ArcPy, GeoPandas
- **Web Frameworks:** Flask, Django, leaflet
- **Database:** MySQL, mongoDB, Geodatabase

FEATURE PROJECTS

- **RSLGTV**
  RSLGTV (Remote Sensing Labeled Ground Truth Visualizer) is a Flask-based web application designed to visualize patterns in remote sensing ground truth data through various interactive plot types. The tool enables users to upload and analyze labeled remote sensing datasets by generating multiple visualization formats to explore spatial and spectral patterns in the data.
  github.com/MustfizurRahaman/RSLGTV

- **A Synthesized Bengali Handwritten Dataset for Bangla OCR**
  A python, JavaScript's, and Flask API based web app to predict Bangla handwritten word from an image.A synthesized dataset of 600000 words has been developed using real handwritten character image for train a Bi-LSTM based NLP model.
  github.com/MustfizurRahaman/Bengali-OCR-dataset.git

- **Effect of label noise on performance of remote sensing and deep-learning based water body**

segmentation model.

Using the technology of segmentation-models-pytorch, skimage, numpy and opencv a performance evaluation of U-net model has been shown in the present of various type of label noise. The Dataset, satellite image of waterbody of Dhaka City, hes been prepared from the Sentinel-2 satellite image using google earth engine for this project.

github.com/MustfizurRahaman/effect-of-Label-noise.git

REFERENCES

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