Maria Chowdhury

Dhaka, Bangladesh
(+880)1705835656 | mariachowdhury831@gmail.com | Google Scholar

Education

Rajshahi University of Engineering & Technology [RUET] — Rajshahi, Bangladesh
2018 - Sept 2023

B.Sc. in Computer Science & Engineering
CGPA: 3.25 out of 4.00
(Last two semesters: 3.76 / 4.00)
• Major GPA: 3.79

Viqarunnisa Noon School & College — Dhaka, Bangladesh
2015 - 2017

Higher Secondary School Certificate | Group: Science
GPA: 5.00 out of 5.00

Viqarunnisa Noon School & College — Dhaka, Bangladesh
2006 - 2015

Secondary School Certificate | Group: Science
GPA: 5.00 out of 5.00

Research Interests

• Human-Computer Interaction • Social Computing • Health Informatics • Machine Learning • AI
• Ethics • Social media

Experience

Reasearch Assistant — Rajshahi, Bangladesh
June 2022 - December 2024

YL Research Lab, RUET
PI: **Azmain Yakin Srizon**, Assistant Professor,RUET

Research Publications

Recognition of Leukemia Sub-types Using Transfer Learning and Extraction of Distinguishable Features Using an Effective Machine Learning Approach

Published in IEEE Xplore | Second Author | 2023 International Conference on Electrical, Computer and Communication Engineering (ECCE 2023)

- We developed a modified DenseNet201 model that effectively addresses optimization challenges prevalent in prior research. Through hyper-parameter tuning, the model achieved outstanding results without the aid of data augmentation.
- Additionally, explored a highly effective approach to hand-crafted feature extraction, incorporating Haralick Features, PFTAS, Hue Moments, along with machine learning classifiers such as Logistic Regression, KNN, Gaussian Process, SVM, and Extra Trees Classifier. This method successfully extracted salient features from PBS images, demonstrating performance on par with transfer-learned models.
- Libraries: TensorFlow Keras, Mahotas, Scikit-learn

Large Ensemble of Transfer-Learned Models for Plant Disease Recognition from Diverse Leaf Images

Taylor & Francis Book Chapter | First Author | 2023 International Conference on Big Data, IoT and Machine Learning (BIM 2023)

- I conducted this research on the PlantDoc dataset, which consists of 27 different classes of plant diseases.
- The combination of seven pre-trained CNN models allowed for a more diverse range of feature extraction. The SoftMax Averaging ensemble technique enables the models to complement each other's strengths, leading to a more robust and accurate model.
- Libraries: TensorFlow Keras, Matplotlib, Numpy, Scikit-learn

Personal Projects

Deep Learning-Based Facial Emotion Recognition System | *OpenCV,Keras* | 2025

- Designed and implemented a convolutional neural network (CNN) for facial emotion recognition using the Kaggle fer2013 dataset consisting of seven emotion classes (angry, disgust, fear, happy, sad, surprise, neutral).
- Developed a real-time emotion detection system with OpenCV, implementing face detection.

Learning Log Web-app | *Python,Django,SQL* | [Github Link] 2021

- Developed a web-app that allows users to keep a log of learnt topics, and notes associated with aforementioned topics.
- Includes user authentication and access control logic.
- File upload feature to set profile picture

Employee Attendance Optimization | *Excel,Power BI,Dashboard* 2022

- Analyzed 3 months of employee attendance data to provide insights, Utilized ETL processes to clean and transform data for analysis
- Created key metrics using DAX, including attendance, sick leave, Work from home, and Work from Office percentages
- Developed interactive dashboards in Power BI to visualize attendance patterns and identify retention strategies.

Flowershop | *HTML, CSS* | [GitHub Link] 2023

- The frontend is written in HTML, and CSS

Awards

Award of Excellency for Research Contributions | *Issued By Department of CSE, RUET* 2023

- Recognized for exceptional contributions to the Young Learner's Research Lab through exemplary performance as a student researcher.

Dhaka Board Scholarship Excellency for HSC, SSC, JSC 2017

- Awarded scholarship in the Talent-Pool category by the Board of Intermediate and Secondary Education, Dhaka, in recognition of academic achievements.

Skillset

Data Science, Machine Learning & Deep Learning: Data Analysis and Visualization, CNNs, Supervised Learning Algorithms, Feature Engineering, Feature Selection & Extraction, Image Classification.

Web Application Development: HTML, CSS ,Django

ML Frameworks & Library: OpenCV, NumPy, Pandas, Matplotlib, Scikit-Learn

Programming Languages: Python, C/C++, SQL, HTML/CSS

Developer Tools: JIRA, Git, LaTex, MATLAB, Jupyter Notebook, Microsoft Power BI, Microsoft Office.

Interpersonal Skills: Management, Collaboration, Communication, Multitasking, Adaptability.