Md. Farhadul Islam

Dhaka, Bangladesh ✉ farhadulfuad324@gmail.com 📞 +8801918051324

in https://www.linkedin.com/in/md-farhadul-islam-fuad324 ⌾ https://github.com/farhad324

https://scholar.google.com/citations?user=WVy-CmcAAAAJ&hl

https://sites.google.com/g.bracu.ac.bd/mdfarhadulislam

🎓 EDUCATION

Bachelor of Science in Computer Science, *Brac University* ↗
CGPA: 3.81 *(Highest Distinction)*

Sep 2019 – May 2023
Dhaka, Bangladesh

Undergraduate Thesis: ***Uncertainty in Different Neural Network Structures using Monte Carlo Dropout*** *(Passed with the Highest Grade)*

💼 PROFESSIONAL EXPERIENCE

Graduate Research Assistant, *School of Data and Sciences, Brac University* ↗
Employment Type: Full-Time

Aug 2023 – Present
Dhaka, Bangladesh

Research Topic: ***Sustainable Deep Learning Applications and Approaches.***
Lab: ***Computing for Sustainability and Social Good (C2SG) Lab.***

Supervisor: Dr. Jannatun Noor.

Teaching Assistant, *OSUN Science Shop, Brac University*
Employment Type: Part-Time

Jan 2023 – May 2023
Dhaka, Bangladesh

Course(s):

- **CSE490.18 - Geospatial Data Analysis** (Funded by OSUN)

Responsibilities: Tutorial Classes, Consultations, Project Mentoring, Course Structure and Syllabus Making.

Student Tutor, *School of Data and Sciences, Brac University* ↗
Employment Type: Part-Time

Feb 2022 – May 2023
Dhaka, Bangladesh

Course(s):
- **CSE424 - Pattern Recognition** (Fall 2022, Spring 2023)
- **CSE431 - Natural Language Processing** (Fall 2022, Spring 2023)
- **CSE449 - Parallel, Distributed, and High-Performance Computing** (Fall 2022, Spring 2023)
- **CSE221 - Algorithms** (Summer 2022)
- **STA101 - Introduction to Statistics** (Spring 2022)

Responsibilities: Assignment Script Checking, Regular Consultations, Lab Tutoring, Lab Exam Invigilation, Project Supervision.

Undergraduate Research Assistant, *School of Data and Sciences, Brac University*
Employment Type: Part-Time, Volunteered

Mar 2021 – May 2023
Dhaka, Bangladesh

Research Topic(s): Deep Learning Uncertainty, Sustainable Deep Learning Applications, Medical Image Analysis with AI,

Lab(s): C2SG Lab, BRACU AI Lab

Supervisor(s): Dr. Jannatun Noor, Meem Arafat Manab, Annajiat Alim Rasel

---

🧠 TECHNICAL SKILLS

Machine Learning/ Deep Learning *(Tensorflow/Keras, PyTorch, ScikitLearn, OpenCV, NLTK)*

Data Analysis, Management & Visualization *(NumPy, Pandas, Matplotlib, Seaborn)*

OOP, Data Structures, Algorithms *(Python, Java, C, C++)* • **Database Management System** *(MySQL, MongoDB)*

Backend Web Development *(Django, Node.js, Flask)* • **Simulation & Modeling** *(SciPy, SimPy, SymPy)*

Web Scraping, Web Automation *(BeautifulSoup, Selenium)* • **Basic Robotics** *(Arduino (C++))*

Software Development Life Cycle [SDLC]

📰 RESEARCH PUBLICATIONS

Forecasting Meteorological Solar Irradiation Using Machine Learning and N-BEATS Architecture,
2023 8th International Conference on Machine Learning Technologies Proceedings ⧉

2023

   Authors: Md. Tawhid Anwar, ***Md. Farhadul Islam***, Md. Golam Rabiul Alam.

Classifying Corn Leaf Diseases using Ensemble Learning with Dropout and Stochastic Depth Based Convolutional Networks,
2023 8th International Conference on Machine Learning Technologies Proceedings ⧉

2023

   Authors: Md. Shamsul Rayhan Chy, Mohammad Rakibul Hasan Mahin, ***Md. Farhadul Islam***, Md Sabbir Hossain, Annajiat Alim Rasel.

Exploring Node Classification Uncertainty in Graph Neural Networks,
Proceedings of the 2023 ACM Southeast Conference ⧉

2023

   Authors: ***Md. Farhadul Islam***, Sarah Zabeen, Fardin Bin Rahman, Md. Azharul Islam, Fahmid Bin Kibria, Meem Arafat Manab, Dewan Ziaul Karim and Annajiat Alim Rasel.

How Certain are Transformers in Image Classification: Uncertainty Analysis with Monte Carlo Dropout,
Fifteenth International Conference on Machine Vision (ICMV 2022) ⧉

2023

   Authors: ***Md. Farhadul Islam***, Sarah Zabeen, Md. Azharul Islam, Fardin Bin Rahman, Anushua Ahmed, Dewan Ziaul Karim, Annajiat Alim Rasel and Meem Arafat Manab.

UnIC-Net: Uncertainty Aware Involution-Convolution Hybrid Network for Two-Level Disease Identification, *SoutheastCon 2023* ⧉

2023

   Authors: ***Md. Farhadul Islam***, Sarah Zabeen, Fardin Bin Rahman, Md. Azharul Islam, Fahmid Bin Kibria, Meem Arafat Manab, Dewan Ziaul Karim and Annajiat Alim Rasel.

Sentiment Analysis of Restaurant Reviews from Bangladeshi Food Delivery Apps,
2023 International Conference on Emerging Smart Computing and Informatics (ESCI) ⧉

2023

   Authors: Ehsanur Rahman Rhythm, Rajvir Ahmed Shuvo, Md Sabbir Hossain, ***Md. Farhadul Islam***, Annajiat Alim Rasel

Diagnosis of Autism Spectrum Disorder Through Eye Movement Tracking Using Deep Learning, *Proceedings of International Conference on Information and Communication Technology for Development* ⧉

2023

   Authors: Nasirul Mumenin, ***Md. Farhadul Islam***, Md. Reasad Zaman Chowdhury, Mohammad Abu Yousuf.

Monte Carlo Dropout for Uncertainty Analysis and ECG Trace Image Classification,
Structural, Syntactic, and Statistical Pattern Recognition, Springer International Publishing ⧉

2023

   Authors: ***Md. Farhadul Islam***, Sarah Zabeen, Md Humaion Kabir Mehedi, Shadab Iqbal, and Annajiat Alim Rasel.

Identifying Hurricane Damage using Explainable Compact Transformer with Convolutional Embedding, *2022 25th International Conference on Computer and Information Technology (ICCIT)* ⧉

2023

   Authors: ***Md. Farhadul Islam***, Sarah Zabeen, Mohammad Muhibur Rahman, Mutasim Husain Khan, Fairoz Nower Khan, Nabuat Zaman Nahim, Md. Tawhid Anwar, Mohammad Kaykobad.

InvoPotNet: Detecting Pothole from Images through Leveraging Lightweight Involutional Neural Network, *2022 25th International Conference on Computer and Information Technology (ICCIT)* ⧉

2023

   Authors: Joyanta Jyoti Mondal, ***Md. Farhadul Islam***, Sarah Zabeen, Meem Arafat Manab.

RNN Variants vs Transformer Variants: Uncertainty in Text Classification with Monte Carlo Dropout, *2022 25th International Conference on Computer and Information Technology (ICCIT)* ⧉

2023

   Authors: ***Md. Farhadul Islam***, Fardin Bin Rahman, Sarah Zabeen, Md. Azharul Islam, Md Sabbir Hossain, Md Humaion Kabir Mehedi, Meem Arafat Manab, Annajiat Alim Rasel.

Note: Plant Leaf Disease Network (PLeaD-Net): Identifying Plant Leaf Diseases through Leveraging Limited-Resource Deep Convolutional Neural Network,
COMPASS '22: ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS) ⧉

2022

   Authors: Joyanta Jyoti Mondal, ***Md. Farhadul Islam***, Sarah Zabeen, A. B. M. Alim Al Islam, and Jannatun Noor.

🖋 REVIEWER EXPERIENCE

ACM Journal on Computing and Sustainable Societies, *(ACM JCSS)* ⧉

ICCV 2023 Workshop on Resource Efficient Deep Learning for Computer Vision, *(ICCVW-RCV 2023)* ⧉

Asia-Pacific Conference on Computer Science and Data Engineering 2023, *(CSDE 2023)* ⧉

International Conference on Networks, Communication and Information Technology, *(NCIT 2022)* ⧉

🗁 PROJECTS

Rant ON! - A Social Media Website, *Single Project*   2023

Project for the course CSE470: Software Engineering. MERN was used to develop the whole project. A minimalistic, stress relief-based social media platform for everyone who wants to share their anger, emotions, stories without revealing their identity. A comment sentiment-based reaction and trend-wise post suggestions as notable features.

In the Shadow of Sculpting Faith: An Analysis of Seasonal Challenges of Hindu Idol Making at Rayer Bazar, *Single Survey Project*   2023

CST307

AirWire: Predicting Air Quality Index from Sky Images, *Group Project*   2022

An app for predicting Air Quality Index from Sky Images. This project was conducted under the team "Ronin Technologies". I was responsible for Machine Learning tasks, developed TFLite version for the project's mobile app. Tensorflow/Keras, TFLite, Scikit-Learn was used.

Malware Classification using Deep CNN on Malimg Dataset, *Single Project* ⧉   2022

Achieved high accuracy with a CNN model made from scratch. Tensorflow/Keras was used. Model was developed focusing on classifying any type of malware attack images.

Auto Chloro - A Plant Disease Classifier & Remedies Provider in Bangla, *Group Project* ⧉   2021

2nd Runner up in Project Tech Tussle by IEEE Computer Society BRACU Student Chapter. Tensorflow/Keras was used for DL, EasyGUI for GUI.

Conference Management System, *Group Project*   2021

CSE370 - Database Project. For Backend Development Django was used and Used BeautifulSoup to scrape conference data. For DBMS, MySQL was used.

AirDraw-n-Match-A-Webcam-Paint-Digit-Recognition-Program, *Single Project* ⧉   2020

One of the winners in Skill Showcasing - R@D!X (Radix) by BRAC University Computer Club. Used Tensorflow/Keras, OpenCV, EasyGUI for developing the whole project.

NESARC Data Analysis, Management & Visualization, *Single Project* ⧉   2020

Coursera Course Project. Analysis on "How Depression Affects Diet and Lifestyle".

COVID19 Ventilator, *Group Project*   2020

Low-cost noninvasive ventilator. This allows control of respiratory rate and tidal volume where the patient will receive a set volume/pressure breath. Responsible for the software development with ARDUINO coding.

📖 ONLINE SPECIALIZATION CERTIFICATES

DeepLearning.AI Tensorflow Developer, *DeepLearning.AI* ⧉   2021
Coursera

AI for Medicine, *DeepLearning.AI* ⧉   2021
Coursera

💡 PRESENTATIONS & LECTURES

[Abstract Presentation] Adversarial Attack against A.I. for Pedagogical Purposes: Designing Prompts for Students and not ChatGPT,   2023
Vienna, Austria
The First Elkana Symposium on Reimagining Teaching and Learning

Authors: Meem Arafat Manab, **Md. Farhadul Islam**

[Poster Presentation] Unmasking the Invisible: Finding Location-Specific Aggregated Air Quality Index with Smartphone Images,   2022
Cox's Bazar, Bangladesh
9th International Conference on Networking, Systems and Security (NSysS 2022)

Authors: Joyana Jyoti Mondal, **Md. Farhadul Islam**, Raima Islam, Nowsin Kabir Rhidi, Meem Arafat Manab, A. B. M. Alim Al Islam and Jannatun Noor.

[Invited Class Lectures] Monte Carlo Simulations - Spring'22, Summer'22,   2022
CSE474 - Simulation & Modeling, Brac University ⧉   Dhaka, Bangladesh

Invitation from the course instructor to take a class on Monte Carlo Simulations. 940+ views on YouTube of Spring 2022's class.

[Poster Presentation] Identification of Plant Leaf Diseases using Deep Convolutional Neural Network with Less Computational Power,
8th International Conference on Networking, Systems and Security (NSysS 2021) ⧉

2021
Cox's Bazar, Bangladesh

Authors: Joyanta Jyoti Mondal, **Md. Farhadul Islam**, Sarah Zabeen, A. B. M. Alim Al Islam, and Jannatun Noor.

⚇ AWARDS/ACHEIVEMENTS

Travel and Accommodation Grant Fellowship,
at First Annual Elkana Symposium on Reimagining Teaching and Learning

2023

Travel and accommodation grant for research abstract presentation at Vienna, Austria. Research Paper Title: Adversarial Attack against A.I. for Pedagogical Purposes: Designing Prompts for Students and not ChatGPT. Amount: 1950 Euros.

Runner-Up Award: Research Poster, *The 2022 9th International Conference on Networking, Systems and Security (9th NSysS 2022)* ⧉

2022

Poster: Unmasking the Invisible: Finding Location-Specific Aggregated Air Quality Index with Smartphone Images.

Presenter/Participation Grant, *at ACM COMPASS 2022*

2022

Awarded for presenting our paper titled "Note: Plant Leaf Disease Network (PLeaD-Net): Identifying Plant Leaf Diseases through Leveraging Limited-Resource Deep Convolutional Neural Network".

Merit Based Scholarship, *BRAC University*

2020 − 2023

Awarded for maintaining high CGPA. Awarded the scholarship for 7 semesters. Got upto 50% scholarship.

Winner: Skill Showcasing, *R@D!X (Radix) by BRAC University Computer Club*

2021

Built a program where you can draw something without a keyboard or a mouse. It does not end here, it will give a random integer to draw, the Neural Network will predict the digit that you drew. The whole program works like a game.

3rd Place: Project Showcasing,
IEEE Project Tech Tussle 2021 sponsored by Global Brand

2021

Team Lead, and responsible for ML development. Built a framework to classify plant disease & provide remedies. The GUI is based on Bangla Language keeping in mind that, our primary target is to create an application to predict plant diseases and provide remedies for the Bangladeshi people.

Top 10: Idea Presentation, *Idea Competition - BUP MindExperia 2020*

2020

9th Position in the idea contest. Leading the team and proposed the idea of Covid19 Tracker and Prediction focusing on Bangladesh.

⌂ CLUBS

Robotics Club of BRAC University - ROBU,
Secretary of Research & Project Management ⧉

Dhaka, Bangladesh

- Contest organizing, Rule Books, Guiding Club Freshers. Tutorial videos on Basics of Robotics, which is available on YouTube.
- Recognition Certificate ⧉

🌐 LANGUAGES

English *(Full Working Proficiency)* ● **Bengali** *(Native)* ● **French** *(Beginner)* ● **Hindi** *(Conversational)*

✂ REFERENCES

Jannatun Noor, PhD, *Assistant Professor*, Department of Computer Science and Engineering, Brac University
jannatun.noor@bracu.ac.bd

Munima Haque, PhD, *Associate Professor*,
Biotechnology Program, Department of Mathematics and Natural Sciences, Brac University
munima.haque@bracu.ac.bd

Farig Sadeque, PhD, *Assistant Professor*, Department of Computer Science and Engineering, Brac University
farig.sadeque@bracu.ac.bd

Annajiat Alim Rasel, *Senior Lecturer*, Department of Computer Science and Engineering, Brac University
annajiat@gmail.com

Meem Arafat Manab, *Lecturer*, Department of Computer Science and Engineering, Brac University
meem.arafat@bracu.ac.bd