Mir Sazzat Hossain

B.Sc. in CSE Graduate, Full Time Research Assistant (RA) Candidate

27/2, Khanka Shorif Road
Uttar Badda, Dhaka-1212
(+880) 1517 124789
mirsazzathossain@gmail.com

EXPERIENCES

Independent University, Bangladesh — Teaching Assistant

October 2021 - December 2021

Worked as TA in the Numerical Method course. My main responsibility was to make lab manuals in Python & NumPy and helped the faculty in lab classes.

Independent University, Bangladesh — Teaching Assistant

October 2019 - December 2019

Worked under the Department of Physical Sciences; my main responsibility was to help students of various courses solve academic math-related problems they faced.

EDUCATION

Independent University, Bangladesh — *B.Sc. in CSE*

January 2017 - 2021

I have completed my Bachelor of Science(B.Sc.) degree requirements from Independent University, Bangladesh with a CGPA of 3.64. My major was **Computer Science and Engineering(CSE)** and I did my minor in **Engineering Mathematics**.

RELEVANT COURSEWORKS

Course	Faculty	Grade
Numerical Methods	AKM Mahbubur Rahman	A
Image Processing	Md. Ashraful Amin	A-
Machine Learning	Amin Ahsan Ali	A-
Neural Network	AKM Mahbubur Rahman	Audit
Artificial Intelligence	Amin Ahsan Ali	A
Linear Algebra and Differential Equation	Dr. Arshad Momen	A-
Calculus II (Multivariable Calculus)	Dr. Arshad Momen	A
Ordinary Differential Equation	Prof. Nilufar Farhat Hossain	A

AWARDS

Vice Chancellor's List, Summer 2020 & Autumn 2020 for attaining a CGPA of 3.50 or more in the third successive semester.

Dean's Merit List, Spring 2020 for attaining a CGPA of 3.50 or more in the second successive semester.

Dean's List, Autumn 2019 for attaining a CGPA of 3.50 or more in any semester.

Winner of **Intra IUB Tech Fest Programming Contest** - Summer 2019.

Winner of 2019 Intra IUB **ACM Week Code Debugging Contest.**

ONLINE COURSES

Neural Networks and Deep Learning by **Andrew Ng**

Supervised Learning with scikit-learn - **Datacamp**

Image Classification with CNNs using Keras - **Coursera**

Linear Regression with NumPy and Python -**Coursera**

Unsupervised Learning in Python - **Datacamp**

Build Basic Generative Adversarial Networks (GANs) by **DeepLearning.AI** (On Going)

Boundary Value Problem	Dr. Mohammed Anwer	A

PROJECTS

Iris flower classification Using Kernel Density Estimation (KDE) & Maximum Likelihood Estimation (MLE) — *Part of course work in Machine Learning course*

The main goal of this project was to implement ML Classification Metrics without using any built in python modules. I have implemented methods to calculate Group by Mean and Covariance, Confusion Matrix, Micro, Macro and Weighted Precision, Recall, F1-score and Classification report. I also implemented a method for Stratified K Fold Cross Validation. Link: Iris Flower Classification GitHub

Implementing Class Activation Map(CAM) for VGG16 — *Part of course work in Neural Network course*

The main goal of this project was to implement Class Activation Map (CAM) to visualize which part/pixels of the image contributed more to the final output of VGG16. In this project I have implemented VGG16 from scratch and trained it on the CIFAR10 dataset. Then, CAM was implemented to generate the heat map on top of the image to visualize the region of interest of the pretrained VGG16 network. Link to my implementation of this project is given below. Link: Class Activation Map GitHub

Long Short-Time Memory (LSTM) Based Language Model— *Part of course work in Neural Network course*

The main goal of this project was to implement a Long Short-Term Memory (LSTM) Based Language Model which will be able to produce a meaningful sentence by giving some initial words of a sentence as input. If we keep adding new words to the input the suggested sentence will also change accordingly. Link to my implementation of this project is given below. Link: LSTM Based Language Model GitHUb

Beautification of Facial Images using Generative Adversarial Network (GAN) — *Part of course work in Image Processing course*

The main goal of this project was to beautify facial images by enhancing facial attractiveness. I have used a pre-trained Generative Adversarial Network (GAN) to generate more attractive faces by manipulating facial images. As coursework I did produce a paper also, the link of the paper is given below. Link: Beautification of Facial Images

SKILLS

Technical:

- Python
- PyTorch
- NumPy
- MatLab
- LaTex
- Git & GitHub

Personal:

- Problem Solving
- Critical Thinking

INTERESTS

I have a great enthusiasm for mathematics. During my university years, I have participated in Math Olympiads. Also, I did my minor in **Engineering Mathematics.**

I also have a great interest in programming. I was an active competitive programmer during my university life. I have represented IUB in **ACM International Collegiate Programming Contest(ICPC)** 2019 and **MIST Inter University Programming Contest(IUPC)** 2019.

REFERENCES

AKM Mahbubur Rahman-PhD
Assistant Professor – Dept. CSE IUB
Supervisor – AGenCy Lab
Email: akmmrahman@iub.edu.bd