# Sarbajit Paul Bappy

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## SKILLS

Python (TensorFlow, Panda, Matplotlib), MySQL, C/C++, Data Structure & Algorithm, Machine Learning, Deep Learning, Git/GitHub, Problem Solving, Team Management, Written and Verbal Communication, Project Management

## SUMMARY

I am a dedicated third-year Computer Science student with proficient skills in C/C++, Python, and MySQL. Presently, I am enhancing my expertise in machine learning and deep learning through courses offered by DeepLearning.AI from Coursera. Upon completing my degree, I am committed to the path of ongoing learning and professional growth in this domain, with the eventual goal of entering the academic field. My ultimate objective is to become a professor, where I can educate and inspire future generations. I am seeking opportunities to utilize my skills and contribute to practical projects.

## RESEARCH

**Medical Image Classification with Deep Learning** **JUNE 2023**

This study explores the application of deep learning techniques in medical image classification to enhance diagnostic accuracy. The process involves pre-processing medical images to improve quality and ensure consistency. Selected images undergo augmentation to create robust training, testing, and validation datasets. By applying pre-trained models and customizing hybrid models, the research aims to achieve high-performance classification of medical images, thereby aiding healthcare professionals in diagnosis. This comprehensive approach to medical image classification can significantly contribute to the early detection and treatment of various medical conditions.

**Key Achievement:**

- Cleaned and enhanced image quality for deep learning.
- Developed an efficient hybrid model that outperforms on various image datasets.
- Achieved higher accuracy in disease detection than previous models.

**Used Technology:** Python, TensorFlow, Keras, OpenCV, Jupyter Notebook, Git/GitHub

## PROJECTS

**SQL Projects:**

**Bangladesh Population Analysis** **FEB 2024**

This project delves into the intricate tapestry of Bangladesh's population statistics, aiming to bridge linguistic barriers by translating Bengali names into English for global accessibility. Leveraging advanced SQL queries, the study conducts extensive data analysis to unveil insights into demographic trends, urbanization patterns, and population density dynamics. By scrutinizing diverse datasets, this research sheds light on the multifaceted aspects of Bangladesh's population dynamics, offering valuable insights for policymakers, researchers, and stakeholders.

**Used Technology:** Jupyter Notebook, MySQL workbench, Git/GitHub

**ML Project:**

**Bangladesh Rainfall and Temperature Analysis and Prediction of Future Rainfall** **JAN 2024**

This project focuses on analyzing historical rainfall and temperature datasets to uncover trends and patterns in Bangladesh's climate. Initial data processing involves detailed trend analysis and visualization of the dataset to identify key climatic factors. The data is then pre-processed for machine learning activities, paving the way for predictive modeling. Advanced machine learning algorithms are employed to predict future rainfall, providing valuable insights for agricultural planning, disaster management, and environmental conservation.

**Key Achievement:**

- Identified seasonal rainfall patterns.
- Uncovered temperature-rainfall correlation.
- Developed accurate machine learning models for future rainfall prediction

**Used Technology:** Python, Pandas, NumPy, Scikit-learn, Matplotlib, Jupyter Notebook, Git/GitHub

**Email Spam Classification** **MAR 2024**

This project focuses on the classification of emails into spam and not-spam categories using a dataset comprised of 5172 emails. Utilizing the power of machine learning and data analysis, we dive deep into a CSV dataset that contains detailed information for each email, including the presence of the 3002 most common words, enabling a comprehensive approach to spam detection.

**Key Achievement:**

- Utilize random forest and decision tree algorithm for model training.
- Identify potential new spam words that are not present in the dataset.

**Used Technology:** Jupyter Notebook, Panda, Git/GitHub

# EDUCATION

**Daffodil International University**
**2022 - Present**
Computer Science and Engineering
**CGPA: 3.91**

- Coursework in CS Fundamentals, Programming and Problem-Solving, Object-oriented Programming, Data Structure, Software Project, Discrete Mathematics, Business Application Design and Employability, Engineering Mathematics, Algorithm, Computer Architecture and Organization, Object Oriented Programming II.

# COURSES & CERTIFICATIONS

- Supervised Machine Learning: Regression and Classification (Instructor: Andrew Ng)
- CSE Fundamentals by Phitron

# ACHIEVEMENTS

| | |
|---|---|
| Obtain 29th position in Take Off Programming Contest | **2022** |
| Jatiyo Shishu Kishore Quiz Utsav Regional Winner | **2016** |
| National Creative Talent Hunt Competition Regional Winner | **2013-2016** |

# VOLUNTEERING

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| Campus Organizer at Brikkhobondhu | **JAN 2024-Present** |
| Vice Chair (Technical) IEEE DIU SB CS Chapter | **FEB 2024-Present** |
| Secretary IEEE DIU SB WIE Affinity Group | **FEB 2024-Present** |