UTSHAB KUMAR GHOSH

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OBJECTIVES

I have been working with Python, Machine Learning, and Data Science for 4+ years. I also have an experience of 1+ year in Full Stack Development. My motto is to collaborate in the field ML and DS. With the analytical skill of problem solving, research passion for ML/DL, I want to gather experience and knowledge from a based environment, contributing to the humankind.

WORK EXPERIENCE

Dec 2022-Present

Machine Learning Engineer
Nascenia Ltd. – Dhaka, Bangladesh
Department: Machine Learning & Full Stack Dev

- **RAG Chatbot for Govt. sites:** We're pioneering the development of **multilingual conversational chatbots**, including Bengali and English, specifically for government websites. We are developing an end-to-**end RAG (Retrieval Augmented Generation) chatbot system** for document-driven question-answering, utilizing Large Language Models (LLMs) through LangChain. This involves **document chunking, vector embeddings, retrieval-based question-answering techniques**, and **advanced research in LLMs** like **Llama-3,** and **GPT-3.5**, coupled with technical pursuits such as **data scraping, preprocessing, pre-training,** and **fine-tuning the models**. Our efforts also extend to developing Full Stack solutions, including **Flask APIs and custom Admin Panels**, to ensure seamless integration and customization for our clients.
- **Project in Laravel Framework:** Worked as Full Stack developer.
- Building Components with Javascript, React, PHP.

Feb 2023-Present

Mentor
Code Studio Academy – Dhaka, Bangladesh
Department: Python, Machine Learning & Data Science

- Currently leading a Machine Learning Bootcamp with over 120 enrolled students. The curriculum covers foundational concepts in Python, Machine Learning, Deep Learning, SQL, and includes practical, hands-on projects designed to reinforce learning outcomes.

Oct 2020-Sep 2022

AI Research Assistant
MyMedicalHUB Int. – Florida, USA (Remote)
Department: Machine Learning

- **Gait Analysis Project:** Focused on the detection of Parkinson's disease utilizing Pattern Recognition, Machine Learning, and Deep Learning models. Responsibilities included the analysis of video data to identify key gait patterns associated with the disease to accurately classify and diagnose Parkinson's disease from the collected data.
- **Sports Video and Image Analysis Project:** Engaged in a comprehensive Sports Video and Image Analysis Project, where machine learning techniques such as pattern recognition with angle-based posture analysis and transfer learning models were employed. The project focused on extracting valuable insights from sports videos and images to enhance performance analysis and decision-making in athletic contexts.
- Worked with AWS, Apace Server, Django REST API.

Dec 2017-Jan 2020

Smart Book Writer
10 Minute School – Dhaka, Bangladesh
Department: Mathematics & Physics.

EDUCATION

- **Bachelor of Science in Computer Science & Engineering** *(2017 – 2022)*
  CGPA: 3.22 (out of 4.00)
  Department of Computer Science & Engineering,
  Rajshahi University of Engineering & Technology, Bangladesh
- **Higher Secondary School Certificate** *(2014 - 2016)*
  GPA: 5 (out of 5.00)
  Saint Joseph Higher Secondary School, Bangladesh
- **Secondary School Certificate** *(2009 - 2014)*
  GPA: 5 (out of 5.00)
  Motijheel Ideal School & College, Bangladesh

SKILLSET

- **Programming** — Python, C, Data Structures, OOP & Algorithms.
- **Data Science, Machine Learning, & Deep Learning** — Data Analysis & Visualization, ANN, CNN, LLM, RAG, Supervised & Unsupervised Learning Algorithms, Feature Engineering, Selection & Extraction, Fine-tuning, Training.
- **Frameworks, Library & Tools** — TensorFlow, Pytorch, Keras, OpenCV, NumPy, Pandas, Scikit-Learn, Tableau, Excel Spreadsheet.
- **Mathematics for ML & DL** — Algebra, Statistics, Possibility, Geometry, Matrix.
- **Web Development** — ReactJS, SaaS, Tailwind, JavaScript, Django, Flask, Laravel.
- **Database** — MySQL, MariaDB, Firebase, MongoDB.
- **Cloud** — AWS, Azure, Apache Server.
- **Miscellaneous** — Git, Docker, Linux, Docker, Latex, MS Office, Adobe Illustrator, Premiere Pro.
- **Interpersonal Skills** — Management, Teamwork, Leadership, Multitasking.

RESEARCHES AND PROJECTS

- **Bone Marrow Cell Classification** (Ongoing)

  Field: Biomedical

- **Accurate Gait Recognition with Inertial Sensors using a New FCN–BiLSTM Architecture**

  Authors: Nahian Rifaat[1], *Utshab Kumar Ghosh*[1], Abu Sayeed

  Journal: Computers and Electrical Engineering (**Q1, Available:** https://lnkd.in/g8QZYgMt)

  Field: Biometrics

- **Most Dominant Metabolomic Biomarkers Identification for Lung Cancer**

  Authors: *Utshab Kumar Ghosh*[1], Fuad Al Abir, Nahian Rifaat, S.M. Shovan, Abu Sayeed, Md. Al Mehedi Hasan

  Journal: Informatics in Medicine Unlocked (**Q2, Available:** https://lnkd.in/gh8ZaeHK)

  Field: Bioinformatics

- **My Machine Learning Projects:** Github Repository

- **ML Web App with Flask & AWS:** Github Repository

- **Django Ecommerce Site** (Sessional Project)

  Supervisor: Asst. Prof. Barshon Sen, Rajshahi University of Engineering & Technology

- **IMDB Clone** (ReactJS Project)

  Deployed: https://moviereview-utshabkg.vercel.app/

COMPETITIONS

- **Kaggle TensorFlow - Help Protect the Great Barrier Reef** (*Video Dataset*)

  Top 49% (1019th out of 2109)

- **Kaggle PetFinder.my - Pawpularity Contest** (*Image Dataset*)

  Top 13% (443th out of 3545)

- **DataHack Traffic Forecasting** (*Time Series Dataset*)

  Time Series Forecasting (Running)

- **HackerEarth ML Challenge: Fast, Furious and Insured** (*Image & Tabular Dataset*)

  Classification & Regression (86th out of 2796)

- **HackerEarth ML Challenge: A Fine Windy Day** (*Tabular Dataset*)

  Regression (54th out of 2034)

SPECIALIZATION ACCOMPLISHMENTS

- **Kaggle Expert** (x3)

- **300+ Problems solved at** Codeforces, Codechef, Leetcode, and other Online Judges.

- **Deep Learning Specialization**

  Institute: deeplearning.ai

- **Applied Data Science Specialization**

  Institute: IBM

- **Data Scientist Career Track**

  Institute: Datacamp

- **AI for Medical Diagnosis**

  Institute: deeplearning.ai

- **Gold Medalist:** National High School Programming Contest

EXTRA CURRCULAR ACTIVITES _____

- **Co Founder** *(January, 2019 – May, 2023)*

  Code Studio, A software company that builds Mobile and Web Application.

- **Asst. Publication Secretary** *(March 2018 - December 2019)*

  RUET Career Forum

- **Vice President (Admin)** *(February, 2021 - October, 2022)*

  Onuronon, RUET Cultural Club

- **Founder, Keyboardist, and Guitarist**

  Plectrum, a Bangladeshi Band

PERSONAL DETAILS _____

Date of Birth	December 31, 1998
Gender	Male
Nationality	Bangladeshi
Religion	Hinduism
National ID No.	9577605968

REFEENCE(S) _____

Name	**Dr. Md. Al Mehedi Hasan**	**Prof. Dr. Md. Al Mamun**
Organization	Rajshahi University of Engineering & Technology,	Rajshahi University of Engineering & Technology
Designation	Head of Dept. of CSE	Professor
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Relation	Research and Projects Supervisor	Teacher of Dept.