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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 of SWE and ML. With the analytical skill of problem solving, full stack dev, and ML/DL, I want to gather experience and knowledge from a based environment, contributing to the humankind and industry.

WORK EXPERIENCE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* **Dec 2022- Machine Learning Engineer  
   Present Nascenia Ltd.** – Dhaka, Bangladesh

**Department:** Machine Learning & Full Stack Dev

* + - * **RAG Chatbot for Govt. sites:** I am in the pioneering team of 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 teamwork 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- Mentor   
   Present 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- AI Research Assistant**

**Sep 2022 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- Smart Book Writer**

**Jan 2020 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,** Data Analysis & Visualization, ANN, CNN, RAG LLM, Llama-3, LangChain,

**Machine Learning,** Supervised & Unsupervised Learning Algorithms, Pipelines,

**& Deep Learning** Feature Engineering, Selection & Extraction, Fine-tuning, Training.

* + **Frameworks, Library** TensorFlow, Keras, OpenCV, NumPy, Pandas, Scikit-Learn,

**& Tools** 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](https://www.sciencedirect.com/journal/computers-and-electrical-engineering) (**Q1**, **Available:** <https://lnkd.in/g8QZYgMt>)

**Field:** Biometrics

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

**Authors:** *Utshab Kumar Ghosh1*, Fuad Al Abir, Nahian Rifaat, S.M. Shovan, Abu Sayeed, Md. Al Mehedi Hasan

**Journal:** [Informatics in Medicine Unlocked](https://www.journals.elsevier.com/informatics-in-medicine-unlocked) (**Q2**, **Available:** <https://lnkd.in/gh8ZaeHK>)

**Field:** Bioinformatics

* **My Machine Learning Projects:** [Github Repository](https://github.com/utshabkg/ML_Competition-AND-Practice)
* **ML Web App with Flask & AWS:** [Github Repository](https://github.com/utshabkg/end-to-end-mlproject-bootcamp)
* **Django Ecommerce Site** ([Sessional Project](https://github.com/utshabkg/Ecommerce_site_Django))

**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)](https://www.kaggle.com/c/tensorflow-great-barrier-reef/leaderboard)
* **Kaggle PetFinder.my - Pawpularity Contest** *(Image Dataset)*

[Top 13% (443th out of 3545)](https://www.kaggle.com/c/petfinder-pawpularity-score/leaderboard)

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

[Time Series Forecasting (Running)](https://datahack.analyticsvidhya.com/contest/practice-problem-time-series-2/#LeaderBoard)

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

[Classification & Regression (86th out of 2796)](https://www.hackerearth.com/challenges/competitive/hackerearth-machine-learning-challenge-vehicle-insurance-claim/leaderboard/predict-the-condition-and-insurance-amount-21-fb647347/)

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

[Regression (54th out of 2034)](https://www.hackerearth.com/challenges/competitive/hackerearth-machine-learning-challenge-predict-windmill-power/leaderboard/predict-the-power-kwh-produced-from-the-windmills-8-f055f832/)

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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

REFEENCE(S) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Name** |  | **Dr. Md. Al Mehedi Hasan** | **Abu Sayeed** |
| **Organization** |  | Rajshahi University of Engineering & Technology, | Rajshahi University of Engineering & Technology |
| **Designation** |  | Head of Dept. of CSE | Assistant Professor |
| **Mobile** |  | +880-1712 205 360 | +880-1751 471 785 |
| **E-Mail** |  | mehedi\_ru@yahoo.com | abusayeed.cse@gmail.com |
| **Relation** |  | Research and Projects Supervisor | Thesis Supervisor |