

MD RAKIB HASAN

Graduate with extensive 3.5+ years of expertise in Data Science and over 2 years of interdisciplinary research in business and public health. Dedicated learner in LLMs, GenAI and ML/DL. Performance driven, seeking opportunities to apply skills in EDA, Model Optimization, Deployment and Advanced ML/DL/LLMs problems to contribute to profitability and operational efficiency.



Dhaka, Bangladesh in/rakibhhrido /rakibhhrido +8801875545062 rakibhhrido@yahoo.com www.rakibhhrido.xyz

Areas of Expertise

DATA HANDLING & MODELING

Data Analysis (Python, R, SQL, Bash)
Predictive Analytics & Forecasting
Exploratory Data Analysis (EDA)

MACHINE LEARNING & AI

Machine Learning (Scikit-learn)
Natural Language Processing (NLTK)
Deep Learning (TensorFlow, PyTorch)
Large Language Models LLMs (LangChain)

BIG DATA & CLOUD COMPUTING

AWS, GCP, Azure
Batch Processing (Apache Spark)
Cost Optimization & Metrics
MLOps in the Cloud (GCP, Azure)

DATA PIPELINE & DEPLOYMENT

Data Integration & Pipelines (ETL/ELT)
Evaluation & Deployment (KubeFlow)
CI/CD Tools (Docker, Kubernetes)
MLOps Workflow (Airflow)

BUSINESS INTELLIGENCE

Business Intelligence (Power BI, Tableau)
Customer Analytics & Segmentation
Data-Driven Sales Strategies
A/B Testing

ADDITIONAL TECHNICAL SKILLS

Server (Linux, Win Server)
Presentation & Public Speaking
Communication & Team Collaboration

Certification / Training

- Mathematics for Machine Learning
- Google IT Support Professional
- Google IT Automation With Python
- Architecting Google Compute Engine
- Google Cloud: Cloud Architect
- DataOps with Apache Iceberg using Spark, Nessie, and Dremio

Extracurricular Activities

Secretary (Technical), Geo-Biome Club
University of Dhaka

Participant, Stanford University
Code In Place 2024

Runnersup in Dhaka Division
BCB Young Tigers Cricket (2017)

Professional Experience

Stanford University; Code In Place 2025

Section Leader

March 2025 - Present

- Led the class of 9 international students to teach CS106A/B program of Stanford University Syllabus. Provided detailed feedback and grading on assignments and exams.
- Collaborating with Dr. Chris Piech & Dr. Mehran Sahami to enhance course materials.

Atomic Energy Center; Bangladesh Atomic Energy Commission

Research Assistant

Mar 2024 - Nov 2024

- Developed and deployed deep learning models using TensorFlow and Scikit-Learn for water quality forecasting, enhancing environmental monitoring of the Turag, Buriganga, Shitalakshya, Dhaleshwari, and Balu rivers.
- Analyzed water pollution dynamics and documented findings in 7+ study, contributing to 10+ journal articles.

University of Dhaka; Department of Soil, Water And Environment

Research Assistant

Mar 2022 - Nov 2024

- Led 15+ analytical chemistry and deep learning projects to assess the impact of soil, sediment, and water quality on human health, analyzing over 500 samples across the Gangetic Delta.
- Used 5+ mathematical and statistical approaches to improve soil organic carbon (SOC) model accuracy by 15%. Contributed to 7+ peer-reviewed journal articles.

Project

Customer Behavior Analysis for E-Commerce Using Machine Learning

- Segmented customers into frequent buyers, occasional shoppers, and browsing customers using K-means and Agglomerative clustering for a Upwork client.
- Implemented marketing strategies, boosting engagement and conversion rates, resulting in a 21% profit increase.
- Applied algorithms and programming in 5 e-commerce apps. Tools used: Python, Pandas, Scikit-learn, Matplotlib, Seaborn.

Data-Driven E-Commerce Business Analysis for Strategic Growth

- Analyzed e-commerce sales, profit, and customer behavior to optimize business strategies for 3 Fiverr client.
- Identified that consumer segment contributed 54% of profit, corporate region accounted for 28% of sales and revealed 15% temporal sales seasonal variation.
- Tableau live dashboards integrating with PostgreSQL and pipeline applied in 4 e-commerce sites.

Bank Customer Segmentation for Targeted Loan Marketing Using Power BI

- Analyzed bank customer data to identify loan-targeted segments based on gender, education, marital status, and age for a local bank (freelance project).
- 35% high-potential loan applicants were university graduates, and 40% loans were requested by middle-aged individuals.
- Boosted loan conversion rates by 18% through targeted customer segmentation.

Interpersonal Skills

Languages

English (Fluent)
Bengali (Native)
Hindi (Fluent)

Communication Skills

Expert in communication with senior leadership and decision making teams.

Programming (4Y)

Python R
SQL Bash

Database (3Y)

PostgreSQL MongoDB
MySQL SQLite

Data Handling (4Y)

Pandas Numpy
A. Spark Excel

Dashboarding / Plotting (3Y)

PowerBI Tableau
DataStudio Superset
Seaborn Matplotlib

Machine Learning (3Y)

Scikit-Learn TensorFlow
PyTorch Spark MLlib

Cloud Platform (3Y)

AWS GCP
Azure DigitalOcean

CI / CD Framework (2Y)

Docker Kubernetes
Terraform Github Action
Ansible Jenkins

Operating Platform (3Y)

Linux Win Server
Unix

App Development (1Y)

Django Flask
Streamlit

Project

Water Quality Modeling Using Enhanced CNN, RNN, LSTM, GRU of Turag

- Analyzed Turag River water and developed a novel method for modeling dissolved oxygen (DO) and biological oxygen demand (BOD) using stacked CNN, RNN, LSTM, and GRU under atomic energy center project.
- Deep learning models outperformed machine learning models, improving accuracy by 3.88%, reducing errors by 7.41%, and increasing reliability by 95.56%.

Ground Water Arsenic Pollution Modeling Using Ensemble Techniques

- Analyzed groundwater from 909 wells to assess Arsenic pollution and developed a novel ensemble technique using multi-scalar data fusion (soil, climatic, anthropogenic, satellite imagery) for prediction.
- The approach is expected to improve prediction accuracy by 5-10% compared to traditional deep learning models.
- Collaborated with Dr. Anwar Zahid from the Institute of Water Modeling, BWDB on the project.

All Other projects can be found on [Github](#)

Publications

Journal of Next Research, Elsevier (Under review)

Hasan, M. R., Rahman, A., Zubyer, S., & Jolly, D. Y. N. Comparative analysis of water quality forecasting of enhanced CNN, RNN, LSTM, GRU-based multivariate and univariate deep learning architectures for the urban Turag River.

Journal of Biological Science, University of Dhaka (Under review)

Uddin, M. J., Hasan, M. R., Arabi, F. Z., & Ali, A. Z. Spatial soil variability and carbon dynamics in the Moribund Delta of the Ganges of Bangladesh.

Journal of Environmental Geochemistry and Health, Elsevier

Rahman, A., Hasan, M. R., Zubyer, S., Jolly, Y. N., & Akter, S. Heavy metals and health risk assessment of Buriganga, Shityalakshya, Balu, Turag, Dhaleshwari river sediments and water around Dhaka.

Journal of Environmental Science Ecosystem, Elsevier

Hasan, M. R., Arabi, F. Z., Uddin, M. J., & Mohiuddin, A. S. M. The potential soil organic carbon stocks in Sundarbans tidal mangrove forest ecosystem of Bangladesh.

Educational Qualification

University of Dhaka; B.Sc in Soil, Water & Environment

Jan 2020- Feb 2025

CGPA: 3.62/4.00;

Research Project: Health Risk Assessment from Heavy Metals in Dried Fish of Dhaka.

Higher Secondary Certificate (HSC)

Graduated in 2019

Letter Grade: A (Science), Government Bangla College

Secondary School Certificate (SSC)

Graduated in 2017

Letter Grade: A+ (Science), Lalmatia Housing Society School & College

References

Dr. Md. Akhter Hossain Khan
Vice Chancellor

State University of Bangladesh
vc@sub.edu.bd

Dr. ASM Mohiuddin
Chairman

Department of Soil Water And Environment
University of Dhaka
asm.mohiuddin@du.ac.bd

Dr. Yeasmin Nahar Jolly
Chief Scientific Officer

Atomic Energy Center
jolly_tipu@yahoo.com