

MD RAKIB HASAN

An aspirational graduate in Soil, Water, and Environment from the University of Dhaka, gregarious and eager to tackle new challenges, enjoys continuous learning and applying it to solve business problems. Diligent and driven by performance-based growth, seeks opportunities to apply skills in data analysis, customer segmentation, and advanced problem-solving to contribute to business growth and operational efficiency.



Contact Information

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

Areas of Expertise

BUSINESS INTELLIGENCE

Business Intelligence (Power BI, Tableau)
Data Analysis (Python, R, SQL)
Customer Analytics

DATA-DRIVEN DECISION MAKING

Data-Driven Sales Strategies
CRM Systems (Salesforce)
Predictive Analytics & Forecasting
Data Visualization (Power BI, Tableau)

PROJECT MANAGEMENT

Project Planning & Coordination
Stakeholder Handling
Risk Management

CLOUD & TECHNOLOGY

Sales Automation
Data Integration & Pipeline
Amazon Web Services (AWS)
Google Cloud Platform (GCP)

PROCESS OPTIMIZATION

Sales Performance Metrics & Reporting
A/B Testing & Campaign Analysis
Process & Cost Optimization

ADDITIONAL TECHNICAL SKILLS

Communication & Presentation
Data Handling (Pandas, Numpy)
CI/CD Tools (Docker, Kubernetes)
Machine Learning (TensorFlow, PyTorch)

Certification

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

Educational Qualification

- BSc in Soil, Water And Environment, University of Dhaka** 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

Professional Experience

Atomic Energy Center; Bangladesh Atomic Energy Commission

- Research Associate 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.

Department of Soil, Water And Environment, University of Dhaka

- Research Associate Mar 2023 - 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 on analytical and AI-driven solutions for environmental sustainability.

Project

Customer Behavior Analysis for E-Commerce Using Machine Learning

- Segmented customers into frequent buyers, occasional shoppers, and new/browsing customers using K-means and Agglomerative clustering for an 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 the consumer segment contributed 54% of profit, and the corporate region accounted for 28% of sales.
- Revealed 15% seasonal variation in sales through time series analysis.
- Visualized insights in Tableau live dashboards integrating with PostgreSQL and pipeline applied in 4 e-commerce sites.

Extracurricular Activities

Section Leader (SL)
Stanford University
Code In Place Programme (CIP 2025)

Vice President (Technical)
EDAPHOS Research Society

Technical Secretary
AstroBiology Society of Bangladesh

Runnersup in Dhaka Division
BCB Young Tigers Cricket (2017)

Interpersonal Skills

Languages
English (Fluent), Bengali (Native), Hindi

Communication Skills
Expert in communication with senior leadership and decision-making teams.

Research & Development
➤ Business Intelligence
➤ Consumer Base Prediction
➤ Soil, Sediment, Water Quality
➤ Remote Sensing & GIS

Programming Languages
Python 4Y
R 3Y
SQL 3Y

Dashboarding
Tableau 2Y
PowerBI 2Y
Google DataStudio 3Y

Data Handling
Pandas 4Y
Numpy 4Y
Scipy 3Y

Machine Learning
Scikit-Learn 4Y
TensorFlow 4Y
Pytorch 2Y

App Development
Django 1.5Y
Flask 1.5Y

Project

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.

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 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.

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.

References

Dr. ASM Mohiuddin
Chairman
Department of Soil, Water And Environment
University of Dhaka
Email: asm.mohiuddin@du.ac.bd

Dr. Yeasmin Nahar Jolly
Chief Scientific Officer
Atomic Energy Center
BAEC, Dhaka
Email: jolly_tipu@yahoo.com