

MD RAKIB HASAN

A dedicated graduate in Soil, Water, and Environment from the University of Dhaka, with 3 years of experience in data analytics and over 2 years of interdisciplinary research. Passionate about using data-driven insights to address pressing business challenges in growth and efficiency. Diligent and driven by performance-based growth, seeking opportunities to enhance skills in extensive problem solving abilities to contribute to business scalability and productivity.



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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 / 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)

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

Professional Experience

Stanford University; Code In Place 2025

Section Leader

March 2025 - May 2025

- 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 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.

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.

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

Operating Platform (3Y)

Linux	Win Server
Unix	

App Development (1Y)

Django	Flask
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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 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.

References

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