

# MD RAKIB HASAN

A motivated and sociable graduate with strong interpersonal skills and a passion for learning. Hardworking and performance-driven, aim to grow professionally through hands-on experience and mentorship in a dynamic organization. Eager to apply skills in data analysis, customer segmentation, and problem-solving and seeking a Trainee role to develop expertise in sales, marketing, and strategic decision-making while gaining exposure to cross-functional business operations.



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## Areas of Expertise

- BUSINESS INTELLIGENCE & ANALYSIS**  
Business Intelligence (Power BI, Tableau)  
Data Analysis (Python, R, SQL)  
Customer Analytics
- DATA-DRIVEN DECISION MAKING**  
Data-Driven Sales Strategies  
Predictive Analytics & Forecasting  
CRM Systems (Salesforce, HubSpot)  
Data Visualization (Power BI, Tableau)
- PROJECT MANAGEMENT**  
Project Planning & Coordination  
Stakeholder Handling  
Risk Management
- PROCESS OPTIMIZATION**  
Sales Performance Metrics & Reporting  
A/B Testing & Campaign Analysis  
Process & Cost Optimization
- CLOUD & TECHNOLOGY**  
Sales Automation  
Data Integration & Pipeline  
Amazon Web Services (AWS)  
Google Cloud Platform (GCP)
- ADDITIONAL TECHNICAL SKILLS**  
Communication & Presentation  
Data Handling (Pandas, Numpy)  
CI/CD Tools (Docker, Kubernetes)  
Machine Learning (TensorFlow, PyTorch)

## Certification / Training

- Google IT Support Professional
- Google IT Automation With Python
- Google Cloud: Cloud Architect
- Mathematics for Machine Learning
- Architecting Google Compute Engine
- 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**  
CGPA: 3.62/4.00;  
Research Project: Health Risk Assessment from Heavy Metals in Dried Fish of Dhaka.  
Jan 2020- Feb 2025
- Higher Secondary Certificate (HSC)**  
Letter Grade: A (Science), Government Bangla College  
Graduated in 2019
- Secondary School Certificate (SSC)**  
Letter Grade: A+ (Science), Lalmatia Housing Society School & College  
Graduated in 2017

## 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

## 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., Zubayer, 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., Zubayer, 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

**Dr. Md. Akhter Hossain Khan**  
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