

MD RAKIB HASAN

Graduated from the University of Dhaka, with 3 years of experience in data analytics and over 2 years of interdisciplinary quantitative & qualitative research in business and public health. Performance driven, seeking opportunities to enhance skills in problem solving abilities to increase profitability, productivity and efficiency.



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Areas of Expertise

BUSINESS INTELLIGENCE

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

PROJECT MANAGEMENT

Project Planning & Coordination
Stakeholder Handling
Risk Management

PROCESS OPTIMIZATION

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

DATA-DRIVEN DECISION MAKING

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

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

- Mathematics for Machine Learning
- Google IT Support Professional
- Google IT Automation With Python
- Certified Peer Reviewer Elsevier
- 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
- Student, 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.

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 Qualifications

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)

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

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

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.

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, data and reporting pipeline was created using Power BI.

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.

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. The project was collaborated with Dr. Anwar Zahid* from the Institute of Water Modeling, BWDB on the project.

Heavy Metal Contamination and Health Risk Assessment in Dhaka's Rivers

- Led a team to analyze seasonal heavy metal concentrations (Cr, Ni, Cu, As, Cd, Pb) in water/sediments across 5 Dhaka rivers (Buriganga, Shitalakshya, Balu, Turag, Dhaleshwari) under supervision of Dr Yeasmin Nahar Jolly*.
- Identified Pb and Cu as primary pollutants, with winter concentrations exceeding WHO/USEPA limits by up to 300% due to reduced runoff.
- Quantified ecological and health risks using advanced indices (Igeo, PLI) and Monte Carlo simulations, revealing moderate-to-high carcinogenic risks from Pb/As via ingestion/dermal exposure.

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

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