MD RAKIB HASAN

Graduate with extensive 3.5+ years of expertise in Data Analytics and over 2 years of interdisciplinary research in business and public health. Dedicated expert in PowerBI, SQL, Python, Excel in Modeling, Evaluation & Reporting. Performance driven, eager to apply skills in Business Intelligence, Metrics Evaluation and Advanced Analytical problems to contribute to profitability and operational efficiency.

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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

- Google IT Support Professional
- Google IT Automation With Python
- Mathematics for Machine Learning
- 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 - 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 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

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.

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.

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 MLib

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

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 techniqueusing 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

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