

Arshadul Hoque

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PROFESSIONAL SUMMARY

Prompt Engineer & Business Analyst with expertise in NLP, machine learning, and data analysis. Skilled in developing optimized ML models. Proven track record of improving model accuracy by 40% and achieving top 80% Kaggle rankings. Experienced in translating business requirements into technical specifications and deploying AI solutions.

EXPERIENCE

THE COBALT PARTNERS | PROMPT ENGINEER & BUSINESS ANALYST Remote Freelancing | January 2025 – Present

- Designed and refined prompts for business process specifications, achieving **40% improvement** in accuracy.
- Streamlined workflows, reducing turnaround times by **10%** while translating business requirements into actionable technical specifications.

UNIVERSITY OF CHITTAGONG | RESEARCH ASSISTANT Chittagong, BD | December 2023 – December 2024

- Developed multi-label classification using BanglaBERT for social media analysis, improving F1 scores to **0.73/0.69**.
- Applied k-fold cross-validation and focal loss to address data imbalance, with research under peer review.

MULTIPLE KAGGLE COMPETITIONS | KAGGLE COMPETITOR | April 2024 - February 2025

- Ranked **Top 80%** (2141/2706) in Automatic Essay Scoring by optimizing DeBERTa models. (QWK: 0.78)
- Achieved **Top 56%** (431/777) in Rohlik Sales Forecasting Challenge with LightGBM model. (WMAE: 23.55)

EDUCATION

BSc. Engineering in Computer Science and Engineering Chittagong, BD | January 2016 – August 2022

UNIVERSITY OF CHITTAGONG

Undergraduate Thesis: "Sentiment Analysis of COVID-19 Vaccine Tweets using BERT" – Using NLP techniques, sentiment analysis was conducted on vaccine-related topics. Despite a small dataset of 130 entries, the BERT-based model achieved 62% accuracy, highlighting its potential for insights from limited data.

PROJECTS

RESTAURANT IDEA GENERATOR ↗ PYTORCH, STREAMLIT | Oct 2023

- Developed Streamlit app using Flan-T5 for generating cuisine-specific restaurant concepts.
- This tool is ideal for restaurant owners, menu planners, and food lovers, providing a simple interface to quickly generate creative ideas.

HOUSE PRICE PREDICTION ↗ PYTHON, SCIKIT-LEARN, PANDAS | JUN 2023

- Built linear regression model achieving 99% accuracy with feature engineering and MSE optimization.
- It utilizes a dataset from Kaggle containing property listings in Bangladesh.

CERTIFICATIONS

Machine Learning Specialization – DeepLearning.AI and Stanford University, Coursera (June 2023)

Deep Learning Specialization – DeepLearning.AI, Coursera (September 2024)

SQL for Data Science – University of California, Coursera (February 2023)

SKILLS

Programming: Python, SQL

ML Frameworks: PyTorch, scikit-learn, Hugging Face

NLP Models: BERT, DeBERTa, BanglaBERT

Tools: Jupyter, Git, Streamlit