

Md Farhad Alam Bhuiyan



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A highly accomplished research engineer with over a decade of experience in software engineering, data engineering, and data science. Specialized in architecting scalable microservices and leading technical teams. Proven success driving innovation in both entrepreneurial ventures and civic organizations, with expertise in bridging product, engineering, and policy domains. Committed to advancing cutting-edge technologies through research and mentorship.

💼 WORK EXPERIENCE

krait.io

2024 – Present | Delaware, USA

Co-Founder and CTO

Krait.io is an advanced security platform that provides comprehensive application security testing capabilities including SAST (Static Application Security Testing), DAST (Dynamic Application Security Testing), SCA (Software Composition Analysis), and container scanning.

National Citizens Party (NCP)

2024 – Present | Dhaka, Bangladesh

EC Member, Joint Member Secretary & IT

Cell Head

- Drive organizational strategy, coordinate party activities, and facilitate policy implementation at the executive level
- Direct digital infrastructure development, oversee technology adoption, and manage IT-driven communication initiatives
- Uphold party standards through governance oversight and ethical compliance enforcement

Penta Global Ltd. ↗

February 2021 – present

Head of Research and Development

- Leading the R&D team, a combination of the Data team and Software team
- Built a highly **scalable(8000 RPS)** cross-platform mobile application ↗ for the Bangladesh Election Commission. **1M downloads in first 3 months**
- Built a microservice-based data fusion platform for Bangladesh Army. **18 law agencies in Bangladesh** use it 24x7.

International Growth Center ↗

April 2025 – Present

Data Consultant

- Ongoing Research project in collaboration with Bangladesh Bank and to investigate Trade-Based Money Laundering (TBML) in Bangladesh, a process where illicit funds are disguised through manipulated trade transactions.
- Designed and implemented automated data collection systems modern techniques to extract and harmonize large-scale national and subnational datasets from government and private sector sources. <https://energy.datahubbd.org/> ↗ this particular dashboard is open for all.

- Engineered robust database architectures handling high-volume data with optimized query performance and security.
- Developed end-to-end data pipelines automating the processing, validation, and standardization of disparate data sources into unified structures
- Created interactive data visualization dashboards tailored to country-specific requirements, collaborating with policymakers and government officials to ensure alignment with user needs

Center for Computational & Data Sciences, IUB

2023 – 2025

Co-Director

I was responsible on the industrial products which increased more collaboration between academia research and industry. I took care of the industry standard training program.

Shikho Technologies Bangladesh Limited.

March 2024 – June 2024

Consultant, Data Engineer

- Structured a Data Lakehouse to future-proof Data consistency
- Shifted all the legacy cron jobs to proper data pipeline

Praava Health

September 2021 – March 2023

Head of Data Team

Dhaka, Bangladesh

- Designing Organization-wide **Data Strategy**
- Data Engineering(**Shifting every manual script to Airflow**)
- Advanced-Data Analytics(**Revenue metrics dashboard, KPI, interactive reports**)
- Additional responsibility to work closely with the product team building revenue-centric tech dependent MVP products.
- Built Modern **Data Lakehouse from scratch**
- Working as the **Growth Hacker** sitting between the Marketing team, Engineering Team, and Product team.
- Helping the organization to drive revenue with **inferential data-driven decisions**.
- Ensuring **Data Governance** throughout the organization.

The Coding Crowd

April 2020 – September 2021

Engineering Consultant (Solution Architect)

Dhaka, Bangladesh

- Led a small agile team to serve different **data-driven solutions** for South African Clients.
- Built a complete solution for NBR's back office.

Shohoz

May 2019 – April 2020

Lead, Data Science & Engineering Team

Dhaka, Bangladesh

- Designed a data-driven policy across all the business for the company and Made data-driven decisions based on Inferential Statistics(e.g. – **Shohoz Quest and Discount Planning Tool**, Which helped the company to reduce **4x** time and effort).
- Designed and Deployed Data Pipeline for both **AWS & Azure** Platform for data cleansing, data analysis, and reporting purposes (reducing the server cost by **one-seventh**)
- Built a **Fraud Mechanism** Application based on Network Analysis & Inferential Statistics(Reduced **25% Food Fraud & 32% Ride Fraud**)

- Designed an end-to-end **Fraud Identification Pipeline Automation** for detecting and reporting Fraud.

IntelligentMachines ↗

Team Lead

It was an intense and interesting project to work within a very short period of time.

- Lead a small **Agile team** to Design and Code. Deployed a mobile-based app ↗ and a Data-Driven Dashboard for **bKash** Merchandisers to do their Daily Activities. Daily at least 20k pictures are uploaded in the server from the app to go under a **CNN model** for Data-Driven analysis and reporting.

Dohatec New Media ↗

January 2015 – April 2019

Lead, Data Science and Engineering team

Dhaka, Bangladesh

- Successfully worked in few critical modules to optimize Data ingestion and Database queries of <https://www.eprocure.gov.bd/> ↗ (**impacting thousands of tenders and millions of users**)
- Built a **Data Visualization** tool as a product for Education Ministry for their internal usage.

Nascenia IT ↗

October 2013 – September 2014

Software Engineer

Dhaka, Bangladesh

Was responsible for Both Android and iOS Mobile Platform.

Evatix ↗

May 2012 – September 2013

Game and Mobile Application Developer

Dhaka, Bangladesh

Cross Platform Game Development and Cross Platform Mobile Application Development for both Android and iOS Platform

RESEARCH AND TEACHING

Monsoon Protests Archive ↗

2025 – Present

Research Engineer

The Monsoon Protests Archive is a digital repository documenting the July-August 2024 mass uprising in Bangladesh that led to the fall of Sheikh Hasina's government. It features an interactive map of verified deaths, a detailed timeline of events from student quota reform protests to the Prime Minister's resignation, and preserves digital evidence of human rights violations.

Green University

January 2018 – 2020

Assistant Professor (Adjunct Faculty)

Dhaka, Bangladesh

Beetles (<https://www.beetles.io/>)

October 2017 – 2021

Researcher & Software Consultant

Dhaka, Bangladesh

Having a wide interest in **Cybersecurity**, attached myself with one of the Talented group of People of Bangladesh

Data & Design

January 2017 – June 2018

Lab(<https://www.dndlabs.org/>)

Dhaka, Bangladesh

Research Assistant

SKILLS

Programming Languages

Python, Go, Rust, Javascript

Web Application Development

FastAPI, Django, Flask, Firebase, NodeJS, Serverless Architecture, Microservice

DevOps & MLOps

Docker, Kubernetes, MLFlow, KubeFlow, AWS, Azure, GCP

Database

PostgreSQL, MySQL, BigQuery, RedShift, MongoDB, Neo4j, Cassandra

Data Analysis, Data Science and Data Engineering

Azure Databricks, Apache Airflow, Apache NiFi, Scikit-learn, PyTorch, Tensorflow, Jupyter, PySpark, ELK stack, Kafka, Spark Structured Streaming

Data Visualization

Data Lakehouse, Metabase, Streamlit, Superset, Matplotlib, Seaborn, Bokeh, Leaflet, D3, NVD3, PyViz

Mobile Application Development

Android, Flutter

EDUCATION

University of Dhaka

BSc, Computer Science & Engineering

2012 | Dhaka, Bangladesh

CERTIFICATES

- Deep Learning Specialization ↗
- Certified Data Scientist in Python, Dataquest ↗
- Mastering Product Management, Reforge Fall Cohort 2022

- Certified Data Scientist in R Track, Datacamp ↗
- Certified Scrum Master
- Data for Product Manager, Reforge Summer 2022 Cohort

PUBLICATIONS

BanglaProtha: Evaluating Vision Language Models in Underrepresented Long-tail Cultural Contexts ↗

Accepted in WACV 2026 (Core Rank: A)

ChitroJera: A Regionally Relevant Visual Question Answering Dataset for Bangla ↗

Accepted in ECML-PKDD 2025 (Core Rank: A)

BanTH: A Multi-label Hate Speech Detection Dataset for Transliterated Bangla ↗

Accepted in NAACL 2025 (Core Rank: A*/A)

BanglaTLit: A Benchmark Dataset for Back-Transliteration of Romanized Bangla ↗

Accepted in EMNLP 2024 (Core Rank: A*)

Penta ML at EXIST 2024: Tagging Sexism in Online Multimodal Content With Attention-enhanced Modal Context ↗

EXIST Lab at CLEF 2024

Penta-nlp at EXIST 2024 Task 1-3: Sexism Identification, Source Intention, Sexism Categorization In Tweets ↗

EXIST Lab at CLEF 2024

Tools and Techniques Adapted for Teaching Software Engineering Topics Remotely during the COVID-19 Pandemic ↗

<https://hicss.hawaii.edu/>

Scrutiny of Electricity Billing and Supply Data as a Probable Proxy for Economic Activities: A Comprehensive Analysis of Power Consumption of Dhaka, Bangladesh ↗

LP-FT-LoRA: A Three-Stage PEFT Framework for Efficient Domain Adaptation in Bangla NLP Tasks ↗

Accepted in Bangla Language Processing Workshop 2025

Robustness of LLMs to Transliteration Perturbations in Bangla ↗

Accepted in Bangla Language Processing Workshop 2025

Benchmarking Large Language Models on Bangla Dialect Translation and Dialectal Sentiment Analysis ↗

Accepted in Bangla Language Processing Workshop 2025

PentaML @BLP Shared Task 1: Linear Probing of Pre-trained Transformer based Models for Bangla Hate Speech Detection

Accepted in Bangla Language Processing Workshop 2025

How Good LLMs Are at Answering Bangla Medical Visual Questions? Dataset and Benchmarking

Submitted to Medicine and Healthcare Bridge Program at AAAI26(Under Review)

Decoupling Representation for Fine-tuning with Linear Probing and LoRA on Robust Downstream Adaptation

Submitted to LREC Conference(Under Review)

Evaluating Vision Language Models on Bangla Medical Visual Question Answering: Dataset and Benchmarking

Submitted to LREC Conference(Under Review)