

MAZHARUL ISLAM LEON

Dhaka, Bangladesh

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EDUCATION

United International University, Dhaka

B.Sc. in Computer Science and Engineering

Oct 2015 - Oct 2020

CGPA: 3.03

TECHNICAL STRENGTHS

Languages

Python (Advanced), C++, Java, SQL, Bash Scripting

Generative AI & LLMs

LangChain, LangGraph, Google ADK, RAG Pipelines, Autonomous Agents, LLM Fine-tuning (LoRA, QLoRA, PEFT), LLM Evaluation (BLEU, ROUGE), Hugging Face

Deep Learning & CV

PyTorch, TensorFlow, CNNs, Vision Transformers (ViT), Object Detection (YOLO v12), OpenCV

ML System Design

Microservices Architecture, Scalable Systems, RESTful APIs, Real-time Inference, Event-Driven Architecture

MLOps & Cloud

AWS (SageMaker), Docker, Github Actions, CI/CD, MLflow, Airflow, Model Deployment & Monitoring

Data & Storage

PostgreSQL, MySQL, Vector Databases (Chroma, Qdrant), Data Pipelines (ETL)

Edge AI

NVIDIA Jetson, DeepStream, TensorRT, Edge Computing

WORK EXPERIENCE

RedDot Digital Ltd. - a subsidiary of Robi Axiata Limited

August 2021 - January 2026

Senior Software Engineer (Team: IoT & ML)

Full-time

- Architected and deployed a computer vision pipeline for automated tobacco leaf grading, integrating image classification, segmentation, and MLflow tracking — boosted grading accuracy and reduced processing time.
- Designed and implemented a hybrid YOLO + ML model for real-time video anomaly detection on NVIDIA Jetson edge devices — enabling instant detection and response in production environments.
- Delivered a high-throughput facial recognition system achieving 50+ TPS on CPU, serving 30M+ telecom users with secure biometric verification at national scale.
- Built and optimized multiple LLM-powered chatbot systems using LangChain, Google ADK, and vector DBs (Chroma, Qdrant) — deployed both on-prem and via cloud APIs to enhance customer support automation.
- Engineered real-time defect detection for manufacturing using classical CV + YOLO models — improved quality control accuracy and reduced wastage rates.
- Designed and deployed an OCR + face matching eKYC platform supporting 20M+ fintech users, accelerating onboarding and ensuring compliance.
- Spearheaded multiple Proof of Concept (PoC) projects, successfully transitioning them into commercially viable products, demonstrating strong project management and business acumen

CMED Health Ltd., Bangladesh

Sep 2020 - July 2021

Jr. Data Science Engineer

Full-time

- Designed and implemented data extraction pipelines from SQL dump files.
- Performed data cleaning and preprocessing to prepare datasets for analysis.
- Applied advanced data analysis techniques to derive actionable insights.
- Collaborated with stakeholders and cross-functional teams to share data-driven insights.
- Actively participated in writing research papers based on the processed datasets.

PROJECTS

AI-Powered Biometric Verification System – Robi Axiata PLC

Developed an AI-driven biometric verification system with face recognition and camera-based fingerprint matching for SIM registration. Expected to be used by 30 million users with 50+ TPS rate.

AI Based RedDot eKYC for Telecash

Developed an AI-powered eKYC system for Telecash, Southeast Bank PLC's mobile banking app, featuring face identification, face matching, and OCR-based NID extraction. Expected to onboard 20 million users.

ACHIEVEMENTS

- Received the prestigious Star Developer Award for Q1-2022 & Q3-2023 at RedDot Digital Ltd.
- Achieved the runner-up position in the SDG Hackathon 2.0 organized by Banglalink.
- Received academic scholarships ranging from 25% to 50% for multiple trimesters.

EXTRA ACTIVITIES

- Instructor for the “Build with AI” event organized by the Google Developer Group (GDG) at UIU.
- Instructor for the “Intro to Computer Vision” event organized by the Quantum AI.
- Vice President, UIU App Forum, from Jan 2020 to Sep 2020.
- Member, Competitive Programming (CP), at UIU

RESEARCH PROFILE

Publication [1]: **Mazharul Islam Leon**, Md Ifrahim Iqbal, Sayed Mehedi Azim, and Khondaker A. Mamun “Predicting COVID-19 infections and deaths in Bangladesh using Machine Learning Algorithms”- ICICT4SD 2021 - IEEE-Xplore. (Status: Published)

Publication [2]: Afnan Islam, Thajid Ibna Rouf Uday, Nazib Ahmad, Md Toriqul Islam, Amit Ghosh, Sadia Kamal, Tanzir Ahommed, **Mazharul Islam Leon**, Ehsan Ahmed Dhrubo, “EduBot: An Educational Robot for Underprivileged Children”- ICACTM 2019 - IEEE-Xplore. (Status: Published)

Publication [3]: **Mazharul Islam Leon**, Md Ifrahim Iqbal, Sadaf Meem, Furkhan Alahi, Morshed Ahmed, and Md. Saddam Hossain Mukta “Dengue Outbreak Prediction from the Weather Spatio-temporal data using Deep Learning” -ICBBDB 2021, Springer. (Status: Published)

Publication [4]: Md Ifrahim Iqbal, **Mazharul Islam Leon**, Jahidul Islam Rahat, Nilamber Haider Tonmoy, and Amit Ghosh “Deep Learning Based Smart Parking Management System For Metropolitan City” - Tensymp 2021 - IEEE-Xplore. (Status: Published)

Publication [5]: Khondaker A. Mamun, Moinul H. Chowdhury, Rubaiyat Alam Hridhe, Tanvir Islam, **Mazharul Islam Leon**, Mithila Faruque, Mohammad Badruddozza Mia, Md Jasim Uddin and Farhana Sarker “Implementation of a Digital Healthcare Service Model for Ensuring Preventive and Primary Healthcare in Rural Bangladesh” - IC4IR 2021, Springer. (Status: Published)

Publication [6]: Syed Ahmed, **Mazharul Islam Leon**, Sanchita Pal, M. Rubaiyat Hossain Mondal “Hybrid CNN-LSTM Transfer Learning for Dengue Diagnosis from Raman Spectroscopy Images” - ICTP 2023, IEEE Xplore. (Status: Published)