DM RAFIUN BIN MASUD

AI Engineer | Machine Learning Engineer

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https://www.kaggle.com/arnab9961

Portfolio link: arnab9961.github.io



PROFESSIONAL SUMMARY

AI Engineer with hands-on experience turning AI concepts into production-ready applications. Skilled in Python, TensorFlow, PyTorch, Scikit-learn, OpenCV, and FastAPI, with experience across the machine learning lifecycle, including data preprocessing, model development, API integration, and Dockerized deployment. Particularly interested in Large Language Models, Retrieval-Augmented Generation (RAG), AI Agents, Computer Vision, and MLOps, with a strong focus on combining practical engineering with applied AI research.

WORK EXPERIENCE

AI Engineer

March 2025 – Present

SM Technology | Dhaka, Bangladesh

- Design and development of scalable AI backend systems using Python and FastAPI to power intelligent web and mobile applications.
- Core focus areas: Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), Natural Language Processing (NLP), Computer Vision, and AI-driven automation.
- Emphasis on building production-ready, robust, and maintainable AI solutions for real-world deployment.

Research Assistant

Jan 2026 – Present

East West University | Dhaka, Bangladesh

- Completed a four-member capstone project under the supervision of Dr. Md. Sawkat Ali, Associate Professor.
- Led project planning, task allocation, stakeholder communication, and progress reporting to ensure timely delivery.

IT Support Engineer

March 2021 – January 2022

Taltola Dot Net | Dhaka, Bangladesh

- Managed end-to-end network operations, including configuration, installation, maintenance, upgrades, and proactive system monitoring to prevent and resolve performance issues.

PROJECTS

Apple Plum Growth Stage Classification | *TensorFlow, Keras, OpenCV, Streamlit* | 2022

- Curated a 701-image agricultural dataset and engineered preprocessing pipelines and CNN architectures for growth-stage classification and bounding-box detection.

MANIFEX AI Paragraph Evaluator | *NLP, LLM, Text Evaluation, Docker* | manifex.org

- Built an NLP engine that evaluates sentence structure, grammar, vocabulary richness, and overall writing quality with automated scoring.

Piper TTS FastAPI Inference Server | *Piper TTS, FastAPI, Docker, REST API* | github.com/arnab9961/piper_tts

- Built a low-latency, containerized neural text-to-speech server delivering real-time voice synthesis via high-throughput REST endpoints.

Movie Recommendation Engine | *Machine Learning, Scikit-learn, Collaborative Filtering, Python*

- Built a dual-engine recommender combining content-based cosine similarity and collaborative-filtering matrix factorization on large user-rating matrices.

Additional projects: DFT Image Prep & Enhancement (super-resolution, background removal — github.com/arnab9961/Upscayl_enhanced_image) and a bilingual Bengali medicine-recommendation chatbot.

EDUCATION

B.Sc. in Computer Science & Engineering

East West University

Dhaka, Bangladesh – 2024

CGPA: 3.05 / 4.00

RESEARCH PUBLICATIONS

1. Deep Learning and Non-Contrast CT for Widespread Pancreatic Cancer Detection

Best Paper Award — International Conference on Innovations in Data Analytics (Springer ICIDA), 2022

- Designed and trained CNNs to detect pancreatic cancer from non-contrast CT scans, improving early screening efficacy without contrast agents.

DOI: 10.1007/978-981-96-6303-3_38

2. ShrimpXNet: A Transfer Learning Framework for Shrimp Disease Classification with Augmented Regularization, Adversarial Training, and Explainable AI.

- Built a transfer learning vision framework for aquaculture disease classification, using Grad-CAM to render feature activations clinically interpretable.

IEEE, 2025 | **DOI:** 10.1109/3ict68299.2025.11442114

3. Emerging Trends in Data Leakage Detection and Prevention: A Comprehensive Review

Springer, 2026 | **DOI:** 10.1007/978-3-032-10386-4_38

CERTIFICATIONS

Data Analytics and Visualization Job Simulation — Accenture North America (via Forage), 2024

VOLUNTEER EXPERIENCE

IEEE Computer Society Student Branch, EWU

Jan 2022-Aug 2023

Coordinated and organized technical events, workshops, and student activities to ensure smooth execution.

LANGUAGES

Bengali (Native) | English (Fluent)

SKILLS

Programming Languages: Python, C++, C, Java, PHP, SQL

AI/ML & Generative AI: TensorFlow, PyTorch, Keras, Scikit-learn, Transformers, Hugging Face, NLTK, NLP, Large Language Models (LLMs), RAG, LangGraph, Explainable AI (XAI), Transfer Learning

Computer Vision & Speech: OpenCV, Image Classification, Object Detection, Data Augmentation, Adversarial Training, Speech Recognition, Audio Processing

Backend & APIs: FastAPI, REST APIs, Async Processing, Microservices, Postman

Databases & Vector Stores: MySQL, Oracle SQL, Vector Databases

Cloud & DevOps: Docker, Git, GitHub, GitHub Actions, CI/CD, nginx, AWS, GCP, VPS Deployment

Data Science & Analytics: Pandas, NumPy, Matplotlib, Seaborn, EDA, Feature Extraction, Statistical Analysis

Web Technologies: React, HTML, CSS

PROGRAMMING ACTIVITIES

Codeforces: Participated in multiple competitive programming contests.

beecrowd: Solved 100+ programming problems.

REFERENCES

Dr. Md Sawkat Ali

Associate Professor

Department of Computer Science & Engineering

East West University

Relation: Supervisor | email: alim@ewubd.edu

Dr. Mohammad Rifat Ahmmad Rashid

Associate Professor

Department of Computer Science & Engineering

East West University

Relation: Faculty | email: rifat.rashid@ewubd.edu