



Gazi Mohammad Fahim Faiyaz

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AI/ML Engineer focused on Computer Vision and Generative AI. Currently building AI systems for document and knowledge processing at Masharah Advisory with prior experience in computer vision pipelines at Quantigo AI. Experienced across the ML lifecycle from data preparation through model development, evaluation and deployment. Strong background in deep learning, explainable AI and LLM-based applications. IEEE-published researcher in object detection, classification and explainable AI.

CORE TECHNICAL SKILLS

Programming & Tools: Python, C/C++, HTML, CSS, React, SQL (MySQL, PostgreSQL), Git, Jupyter Notebook, Tableau

AI/ML & Computer Vision: Machine Learning, Deep Learning, Object Detection, Segmentation, Time-Series Analysis, TensorFlow, PyTorch, Keras, Scikit-Learn, FastAI, OpenCV, Ultralytics

NLP & LLMs: Transformers, Embeddings, RAG, LangChain, LangFlow, Prompt Engineering, Vector Database (ChromaDB, Pinecone)

Data Engineering: Selenium, Web Scraping, Automated Data Pipelines, Data Cleaning & Preprocessing

MLOps & Cloud: Docker, GitHub Actions, MLflow, ONNX Runtime, TensorRT, FastAPI, Flask, Gradio, Hugging Face Spaces, CVAT, n8n, AWS, Azure

EXPERIENCE

Machine Learning Engineer

07/2026 – Present

Masharah Advisory • Remote, Saudi Arabia

- ▶ Contributing to AI/ML systems that digitally structure and preserve classical Islamic legal knowledge for the Legal Knowledge Platform (LKP).
- ▶ Working across the ML lifecycle from data and experimentation through evaluation and system integration for AI-driven knowledge applications.
- ▶ Applying ML and AI techniques to document and knowledge-processing workflows with a focus on accuracy and reliability at scale.

Computer Vision Engineer

04/2025 – 07/2026

Quantigo AI • Remote, Bangladesh

- ▶ Created and maintained annotated image and video datasets for active computer vision pipelines to support model training and client deployments.
- ▶ Validated and deployed object detection models across diverse computer vision applications to ensure reliable production performance.
- ▶ Investigated annotation inconsistencies and edge cases to improve dataset quality, model robustness and pipeline reliability.

PROJECTS

AI / ML & Computer Vision Research

Driver Distraction Detection GitHub — Real-Time Computer Vision System

2025

- ▶ Developed a YOLOv10 real-time system classifying 12 distraction behaviors at 98.1% mAP@50; cut inference latency via ONNX Runtime and automated deployment through CI/CD.
- ▶ Stack: Python, YOLOv10, ONNX Runtime, Flask, Gradio, Docker, GitHub Actions

Brain Tumor Detection GitHub — YOLOv10 & Hybrid CNN with XAI (BSc Thesis)

2024

- ▶ Achieved mAP@50 = 0.964 on MRI tumor detection using YOLOv10 variants; developed hybrid VGG19-LSTM / VGG16-Inception models with Grad-CAM for clinical explainability. [Published: IEEE RAAICON 2024 & ICCIT 2024]
- ▶ Stack: Python, TensorFlow, PyTorch, OpenCV, Ultralytics YOLOv10, Grad-CAM

Telemetry Anomaly Detector GitHub — Time-Series Anomaly Detection System

2025

- ▶ Designed a 3-layer ensemble (STL Z-score, Isolation Forest, CUSUM) on NAB server telemetry; CUSUM layer achieves high recall for drift detection while the ensemble balances precision-recall tradeoff — served via FastAPI and Streamlit dashboard.
- ▶ Stack: Python, Scikit-learn, Statsmodels, FastAPI, Streamlit, Docker, Pytest

Bangladeshi Landmarks Recognizer GitHub — Custom Dataset & Image Classifier

2025

- ▶ Independently scraped a 16,741-image landmarks dataset; trained DenseNet121 to 99.9% accuracy and deployed as a live Hugging Face Gradio application.
- ▶ Stack: Python, FastAI, PyTorch, DenseNet121, Gradio, GitHub Pages

Generative AI & Multi-Agent Systems

- EmailCraft-AI GitHub — Production Multi-Agent B2B Outreach System2025
- ▶ Assembled a multi-agent pipeline automating personalized B2B outreach by combining RAG retrieval, job-post scraping, persona profiling, and portfolio matching — served via containerized REST API.
- ▶ Stack: Python, FastAPI, Groq (LLaMA), ChromaDB, Pinecone, SQLite, Docker

- AI Fitness Coach GitHub — Intelligent Conversational Health Assistant2025
- ▶ Implemented a multi-agent system with dynamic query routing delivering personalized fitness and nutrition plans, with long-term memory persistence via AstraDB for context-aware interactions.
- ▶ Stack: Python, Streamlit, LangChain, Groq AI, AstraDB

RAG & AI Automation Systems

- Crosscheck: AI Receipt & Invoice Extractor GitHub — Document AI with Built-in Checks2026
- ▶ Evaluated AI-powered receipt and invoice extraction on CORD-v2, invoice datasets, and WildReceipt; achieved 91% and 94% fully correct extraction on CORD-v2 test and validation sets, respectively, using rule-based validation to flag inconsistencies.
- ▶ Built a review workflow with one-click correction suggestions for flagged documents and integrated Telegram and Gmail alerts via n8n; enabled CSV, Excel, and QuickBooks exports for downstream accounting workflows.
- ▶ Developed an English–Bangla AI assistant for querying document data and explaining validation issues.
- ▶ Stack: Python, FastAPI, Next.js, TypeScript, Gemini, Supabase, n8n

- Local OCR & Dynamic RAG System GitHub — Privacy-First AI Pipeline2025
- ▶ Set up a document pipeline running OCR (Surya) and retrieval-augmented search (Ollama, BGE-M3) fully on-machine with zero external calls, supporting hybrid search via ChromaDB.
- ▶ Stack: Python, Surya OCR, BGE-M3, ChromaDB, Ollama, FastAPI

- Legal Document AI System GitHub — Human-in-the-Loop RAG Pipeline2025
- ▶ Delivered a RAG pipeline for legal document processing and memo generation featuring continuous improvement from operator edits; deployed live on Hugging Face Spaces.
- ▶ Stack: Python, RAG, ChromaDB, FastAPI, Streamlit, SQLite

- AI-Driven Social Media Automation GitHub — LLM Workflow Orchestration2025
- ▶ Orchestrated a human-in-the-loop social media pipeline chaining Groq Llama 3.3 for copywriting, automated branded image compositing, and a publishing approval gate using n8n.
- ▶ Stack: Python, n8n, Groq (Llama 3.3), FastAPI, Pillow

PUBLICATIONS

- A Hybrid Deep Learning Approach For Brain Tumor Detection Using XAI with GradCAM. — ICCIT 2024, 1st Author
doi: 10.1109/ICCIT64611.2024.11021963
- Deep Learning for Brain Tumor Detection Leveraging YOLOv10 for Precise Localization. — IEEE RAAICON 2024, 2nd Author
doi: 10.1109/RAAICON64172.2024.10928354
- Deep Learning Approaches for Distracted Driving Detection Using YOLOv10-S and EfficientNet-B0. — ICCIT 2025, 1st Author
doi: 10.1109/ICCIT68739.2025.11491547
- Tea Leaf Disease Detection Using Explainable AI & the Fusion of Ensemble and Deep Learning. — ICCIT 2025, 3rd Author
doi: 10.1109/ICCIT68739.2025.11491363
- Tea Leaf Disease Detection and Classification Using YOLOv11 and Transfer Learning with Grad-CAM. — ICCIT 2025, 1st Author
doi: 10.1109/ICCIT68739.2025.11516092
- Hybrid Xception–LSTM Model for Explainable Mango Ripeness Classification Using Grad-CAM. — IEEE RAAICON 2025, 2nd Author
doi: 10.1109/RAAICON69033.2025.11502078

COURSES & CERTIFICATIONS

- Dokkho MasterCourse (Cohort 7)2025
- Data Science Career Program. Selected via competitive assessment; 4 end-to-end capstone projects.
- Complete ML & NLP Bootcamp + MLOps2024
- Udemy
- ML, NLP, feature engineering, Docker deployment and MLOps for real-world AI systems.
- Generative AI with LangChain & Hugging-Face2025
- Udemy
- LLM applications, embeddings, vector DBs, RAG pipelines and agent workflows.

EDUCATION

- B.Sc. in Computer Science and Engineering2020 – 2025
- East Delta University • Chattogram, Bangladesh
- ▶ CGPA: 3.60 / 4.00 | 5× Dean’s List (GPA 3.5+) | 1× Vice Chancellor’s List (GPA 4.0)
- ▶ Thesis: Brain Tumor Detection Using YOLOv10 and Hybrid CNN Models with Explainable AI

LANGUAGES

Bangla — Native | English — Fluent (Reading, Writing, Speaking, Listening)