Gazi Mohammad Fahim Faiyaz

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Education

Bachelor of Computer Science, East Delta University **2020 – 2024**

- **CGPA:** 3.60/4.00
- **Research Focus:** Computer Vision, Deep Learning, Medical Imaging, Object Detection, NLP, Generative AI, RAG-based Knowledge Retrieval, Vision–Language Models
- Achieved academic distinction with **5× Dean's List Honors (GPA 3.5+)** and **1× Vice Chancellor's List Honor (GPA 4.0)**.

Experience

Computer Vision Engineer, Quantigo AI **Dec 2024 – Present**

- Created and annotated large-scale image/video datasets for custom and pretrained Computer Vision models.
- Supported engineering teams in testing and deploying production-ready object detection models.
- Worked on key projects including **Street Text Recognition**, **Microsurgical Scene Analysis**, and **Road Crack Detection**.
- **Technologies:** Python, OpenCV, PyTorch, YOLO, Roboflow, CVAT, Git

Projects

Advanced Multi-Agent AI Fitness Coach **2025**

- **Technologies:** Python, Streamlit, LangChain, Groq AI, AstraDB (Vector DB)
- Built multi-agent system with smart routing for personalized fitness and nutrition guidance.
- Implemented context-aware AI chat with conversation history and vector search capabilities.

Driver Distraction Detection (Real-Time Computer Vision System) **2025**

- **Technologies:** Python, YOLOv10, ONNX Runtime, Flask, Gradio, Docker, GitHub Actions
- Built a YOLOv10-based system detecting 12 distraction behaviours with **98.1% mAP@50**.
- Optimized ONNX inference and deployed via Flask, Docker, and GitHub Actions CI/CD.

Computer Science Research Article Classification (SciBERT, Multi-Label) **2025**

- **Technologies:** Python, SciBERT, FastAI, ONNX, Flask, Gradio, Selenium, Docker
- Created a **custom dataset of 30,000 arXiv papers** using Selenium; achieved **97.4% accuracy** with SciBERT.
- Exported the model to ONNX and deployed on Render and Hugging Face Spaces.

Bangladeshi Landmarks Recognition **2025**

- **Technologies:** Python, FastAI, PyTorch, DenseNet121, Gradio, GitHub Pages
- Built a **self-scraped dataset of 16,741 images** using DuckDuckGo and FastAI tools.
- Achieved **99.9% accuracy** using DenseNet121; deployed via Gradio on Hugging Face.

King County House Price Predictor (ML Web App) **2025**

- **Technologies:** Python, Scikit-learn, XGBoost, FastAPI, HTML/CSS, Docker, GitHub Actions
- Developed an XGBoost regression model with real-time FastAPI endpoints.
- Deployed using Docker and GitHub Actions CI/CD on Render.com.

FIFA Player Analytics (2012–2025) **2025**

- **Technologies:** Python, Selenium, Pandas, Jupyter, Tableau
- Scraped 14 years of FIFA player data for rating, wage, and market-value trends.
- Built automated scraping scripts and interactive Tableau dashboards.

Mango Ripeness Classification with XAI (Xception–LSTM) **2025**

- **Technologies:** Python, TensorFlow, Keras, Xception, LSTM, Grad-CAM
- Built a hybrid **Xception + LSTM** model achieving **98–99% accuracy** on a 6,000-image dataset.
- Applied **Grad-CAM** to highlight color–texture regions relevant to ripeness classification.

Brain Tumor Detection using YOLOv10 & Hybrid CNN Models with Explainable AI **2024**

- **Technologies:** Python, TensorFlow, PyTorch, OpenCV, Ultralytics (YOLOv10), Grad-CAM
- Achieved **mAP50 = 0.964** using multiple YOLOv10 variants for MRI tumor detection.
- Developed hybrid VGG19–LSTM and VGG16–Inception models with Grad-CAM explainability.

Skills

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

AI/ML & Computer Vision: Machine Learning, Deep Learning, Computer Vision, Object Detection, Segmentation, Predictive Analytics; TensorFlow, PyTorch, Keras, Scikit-Learn, FastAI, OpenCV, Ultralytics

NLP & LLMs: Transformers, LLM Basics, Embeddings, RAG, LangChain, LangFlow, Prompt Engineering; Vector Databases (ChromaDB, AstraDB, Pinecone)

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

MLOps & Cloud: Docker, GitHub Actions, MLflow, ONNX Runtime, FastAPI, Flask, Gradio, Hugging Face Spaces, Roboflow; AWS (Basic), Azure (Basic)

Publications

Deep Learning for Brain Tumor Detection Leveraging YOLOv10 for Precise Localization **2024**

- IEEE RAAICON 2024

A Hybrid Deep Learning Approach For Brain Tumor Detection Using XAI with Grad-CAM **2024**

- ICCIT 2024

Hybrid Xception–LSTM Model for Explainable Mango Ripeness Classification Using Grad-CAM **2025**

- IEEE RAAICON 2025

Tea Leaf Disease Detection and Classification Using YOLOv11 and Transfer Learning with Grad-CAM **2025**

- ICCIT 2025

Deep Learning Approaches for Distracted Driving Detection Using YOLOv10-S and EfficientNet-B0 **2025**

- ICCIT 2025

Courses and Certifications

Dokkho MasterCourse — Data Science Career Program (Cohort 7) **2025**

- Selected through a task-based assessment; trained to build end-to-end data science projects and completed 4 industry-focused capstone projects.

Complete Machine Learning & NLP Bootcamp + MLOps Deployment — Udemy **2024**

- Learned ML, NLP, feature engineering, deployment (Docker), and MLOps practices for real-world AI systems.

Generative AI with LangChain & HuggingFace — Udemy **2024**

- Gained hands-on experience in LLM applications, embeddings, vector databases, RAG pipelines, and agent-based workflows.

App Development with Flutter — Ostad **2024**

- Gained practical experience building cross-platform mobile apps using Flutter and Dart.

Languages

Bangla (Native) · **English** (Fluent) · **Hindi** (Fluent)