

IMAAD FAZAL

+92 336 5319960 | imdufazal@gmail.com | [LinkedIn](#) | [GitHub](#) | [Portfolio](#) | Islamabad, Pakistan

EDUCATION

National University of Computer and Emerging Sciences (FAST-NUCES), Islamabad

Expected Grad. Jun. 2027

Bachelor of Science in Computer Science

- **Relevant Coursework and Tech Stack:** Machine Learning, Artificial Intelligence, Data Structures & Algorithms, Probability & Statistics, Linear Algebra, Data Mining, Multivariable Calculus, Python Programming, Operating Systems, Compiler Construction, Database Systems, High Performance Computing

WORK EXPERIENCE

TechGIS (Pvt.) Limited — Applied AI/ML Intern

15 Jul. 2026 – 15 Aug. 2026

Islamabad, Pakistan

- Worked across Agentic AI, multi-agent reasoning, RAG, semantic retrieval, embeddings, generative/cognitive AI, and production-oriented AI engineering.
- Explored sovereign/air-gapped/on-prem AI, computer vision, geospatial AI, edge AI, efficient model inference, and neural architecture design/evaluation.
- Contributed to research, experimentation, evaluation, and deployment-oriented workflows under Manager Hameem Ahmad and Supervisor Inayat Arshad.

Medical Imaging and Diagnostics Lab – National Centre for AI (NCAI)

Jul. 2025 – Sep. 2025

Artificial Intelligence Intern | Islamabad, Pakistan

- Advanced a medical prescription OCR pipeline using traditional and modern Vision-Language Model (VLM) techniques, integrating Ollama and Nanonets-OCR.
- Built LangChain agents with tool-calling for medication instructions/side-effect search; incorporated MedGemMA 4.0 for clinical Q&A.
- Recognized for technical excellence, professionalism, and effective cross-functional teamwork.

NASTP (National Aerospace Science and Technology Park)

Aug. 2024 – Oct. 2024

AI & ML Intern | Rawalpindi, Pakistan

- Collaborated on AI model training, visualization/analysis pipelines, and ECG anomaly detection using deep learning.
- Participated in code reviews and improved code quality, performance, and agile development practices.

RESEARCH

Early Detection of Unstable Aircraft Approaches Using GenAI & Autonomous Decision Agents

2026

IEEE IES Generative AI Challenge 2026 — IRAI Conference, Melbourne | First Author

- Top 10 from 575+ global submissions; developed a physics-constrained ADS-B framework achieving AUROC 0.8962.
- Corrected chronological data leakage (0.9513 → 0.8923 honest baseline), then improved to 0.8962 using conditional VAE augmentation with hard physics filtering.
- Designed a real-time Autonomous Decision Agent Dashboard with XGBoost, SHAP, FastAPI and LLM advisories at sub-50ms latency; submitted to IEEE/IRAI 2026.

PROJECTS

DreamTrip — AI Travel Discovery Platform

HackUPC 2026, Barcelona

Hackathon Project (Skyscanner Challenge) | Python, Gemini API, ElevenLabs, FastAPI

- Represented Pakistan and FAST-NUCES at HackUPC 2026; built an AI travel recommender converting emotional prompts into ranked destinations and AI-generated travel insights.
- Engineered Gemini recommendation workflows, ElevenLabs voice narration, and sentiment-aware multi-city embeddings; shipped in under 36 hours.

Pneumonia Detection from Chest X-Rays

Jun. 2025

Python, PyTorch, ResNet18, Grad-CAM

- Built an interpretable medical imaging classifier with Grad-CAM attention visualization for explainable clinical decision support.

SepsisAI — Early Sepsis Prediction (MIMIC Dataset)

Jan. 2026

Python, PyTorch, Time-Series ML

- Developed an ICU sepsis early-warning pipeline using clinical time-series data, achieving AUROC 0.927 with ~24-minute lead time and 8.9× risk separation; built end-to-end preprocessing, feature engineering, and model training.

Parkinson's Disease Early Detection

Dec. 2025

Python, XGBoost, SHAP Explainability

- Built a biomedical voice ML pipeline with model comparison and SHAP-based explainability for medical interpretability.

ECG Anomaly Detection (TCN Model)

Aug. 2024

Python, Temporal Convolutional Networks

- Implemented ECG-5000 anomaly detection using TCNs for physiological signal classification at scale.

Smart Music Recommender

Jun. 2025

Python, Scikit-Learn, Gradio

- Built a collaborative-filtering recommender on audio features/genre patterns and deployed it through Gradio.

Candy Crush Clone (Academic Lead Project)

Aug. 2024

C++, SFML Library

- Led a team building a feature-complete Candy Crush clone with matching mechanics, cross-platform compatibility, and polished UI.

TECHNICAL SKILLS

Languages: Python, C, C++, Java, MATLAB, SQL, HTML, CSS, PHP

ML / AI Frameworks: PyTorch, TensorFlow, Scikit-Learn, XGBoost, LightGBM, Hugging Face Transformers, LangChain, SHAP, Grad-CAM

GenAI & Agents: Gemini API, Claude API, Ollama, LangChain Agents, ElevenLabs, Nanonets-OCR, MedGemMA, FastAPI

Data & Tools: Pandas, NumPy, Matplotlib, Jupyter, Git, GitHub, MySQL, SQL Server, Oracle, VS Code, PyCharm, Gradio, Streamlit

Web: HTML, CSS, Bootstrap, FastAPI

HONOURS & ACHIEVEMENTS

IEEE IES GenAI Challenge 2026 — Top 10 Global Finalist • Shortlisted from 575+ worldwide submissions for IRAI, Melbourne.	May 2026
HackUPC 2026 — International Hackathon Participant • Represented Pakistan at Universitat Politècnica de Catalunya, Barcelona.	Apr. 2026
ICPC 2024 — Honorable Mention • International Collegiate Programming Contest recognition.	Dec. 2024
Google Soft Skills Program — Certificate	Dec. 2024
Global Hackathon Selections & Participation — 2026	2026

- AI for Civic Innovation (Code for Pakistan, Ctrl+Aid); ETHGlobal Lisbon & Tokyo; Hack-Nation Global AI Hackathon; MHacks 2026; Junction 2026 Finland; Hack Dearborn: Conjure Reality; DeepTech GigaHack; Knight Hacks; HackUMBC; FortyGuard Hackathon '26 (HeatShield AI).
- FortyGuard HeatShield AI — developed an AI-driven heat-risk radar prototype through an international hackathon.

RESEARCH OUTPUTS & CREDENTIALS

IEEE IRAI 2026 — Research Paper • Early Detection of Unstable Aircraft Approaches Using GenAI & Autonomous Decision Agents — first-author IEEE/IRAI 2026 submission; Top 10/575+.	2026
Elsevier Safety Science — Submission • Predicting Runway Risk Excursion — research manuscript submitted to Elsevier Safety Science.	2026
PhysioNet — ML in Healthcare Research • PhysioNet / clinical ML research — developed and evaluated ML pipelines on physiological and healthcare datasets.	2026
MIT / CITI Program — MIMIC-IV Credentialed Researcher • Completed CITI Data or Specimens Only Research training (100%); credentialed for MIT MIMIC-IV clinical database access.	Jan. 2026
McKinsey.org Forward — Graduate • McKinsey & Company graduate credential.	Dec. 2025
EF SET English Certificate — C1 Advanced • EF SET 62/100.	Jul. 2025
Google DeepMind × Kaggle — Measuring Progress Toward AGI • Submitted a benchmark/evaluation entry to the Google DeepMind × Kaggle “Measuring Progress Toward AGI: Cognitive Abilities” hackathon.	
IELTS Academic — Overall Band 8.0/9.0 • English proficiency credential supporting international graduate study.	

RESEARCH FOCUS

- Healthcare AI • Clinical ML • Computer Vision • Agentic AI • Trustworthy/Explainable ML • Edge & Resource-Constrained AI • Aviation Safety

SELECTED TECHNICAL ENGAGEMENT

- Google DeepMind × Kaggle — Measuring Progress Toward AGI: submitted a benchmark/evaluation entry focused on cognitive abilities.
- MIMIC-IV / PhysioNet — clinical ML work spanning sepsis prediction, physiological signal modeling, and medical AI.
- International hackathon selections: ETHGlobal Lisbon & Tokyo, MHacks 2026, Junction 2026, Hack-Nation, Hack Dearborn, DeepTech GigaHack, Knight Hacks, HackUMBC.

LEADERSHIP, SERVICE & ENGAGEMENT

- Research & Planning Team Member, Meri Kahani — FAST Outreach & Engagement Society, Islamabad.
- Community Service: Guided pre-university students preparing for engineering and CS entrance examinations.
- Civics Course Project — community-service focused academic project.
- Healthcare AI Chatbot Assistant — recognized/mentioned by Rise & Recognize, Dubai.
- Agentic AI Masterclass — AI Data Yard; AI Business Meetup — NICAT/NASTP; Indus AI Week 2026 — AI Data Yard; Indus Hospital Healthcare Conference; EduNautics Workshop — NSTP; TechnoWorks company visit — FOM course project.

EXTRACURRICULAR

- Member, FAST Futsal Team — competed in NASCON (National Speed Contest).