Humza Tareen

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Work Experience

Software Engineer *Sep 2024 – Present*
Turing Palo Alto, CA (Remote)

- **Software Engineer (Jul 2025 – Present):** Architecting AI-powered backend services using Python, FastAPI, RAG, PostgreSQL, Redis, and GCP that automate end-to-end model evaluation and data processing pipelines, directly accelerating the development lifecycle for AI training teams.
- **Pod Lead (Mar – Jul 2025):** Led a globally distributed team of 10+ AI engineers across 3 continents. Owned execution of high-priority GenAI benchmarking projects for key APAC clients under accelerated timelines. Built quality control frameworks for fully remote async workflows.
- **LLM Python Developer (Sep 2024 – Mar 2025):** Developed and evaluated domain-specific LLMs for **Apple, Meta, and Bytedance**. Specialized in RLHF, advanced reasoning, and Code Interpreter development. Engineered evaluation suites that improved final product accuracy and safety.

Software Engineer *Feb 2024 – Jul 2025*
Royal Cyber Inc. Naperville, IL (Remote)

- Co-developed **'RC AI OPS'**, a GenAI agent (Python, LangChain) that automated error resolution and improved backend operational efficiency by **50%**.
- Fine-tuned open-source Llama models on AWS Bedrock to build domain-specific copilots for financial services clients.
- Architected and delivered GenAI integrations for **Fortune 500 clients** using Mulesoft, Salesforce, and Apache Kafka.
- Built AI agents for Middleware Technologies (IBM ACE/MQ, Salesforce OMS), reducing admin and developer workloads by **60%**. Earned **Mulesoft Certified Developer – Level 1**.

Deep Learning Researcher *Sep 2023 – May 2024*
National Center of Artificial Intelligence (NCAI) Islamabad, Pakistan

- Authored a peer-reviewed IEEE EMBC paper on "OptiGuard," an award-winning (**1st Prize, SEECS Open House**) explainable AI system for glaucoma detection achieving state-of-the-art results.
- Designed a two-stage deep learning pipeline: Detectron2 + Mask R-CNN for optic disc/cup segmentation, and EfficientNet-B0 with Grad-CAM explainability (Python, PyTorch).

Software Engineer *Mar 2023 – Aug 2023*
Bitnine Global Inc. Vancouver, BC, Canada

- Contributed to Apache AGE core, developing 'agtype' datatype methods to enhance PostgreSQL graph database integration.
- Built an enterprise automation framework for cross-platform testing (Windows, CentOS, Red Hat, Debian, Ubuntu).

Publications

OptiGuard: Generalized, Attention-Driven & Explainable Glaucoma Classification
47th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), 2025
ieeexplore.ieee.org/document/11253669

- **Authors:** Syed Safi Ullah Shah, Muhammad Huzaifa, **Humza Tareen**, Muhammad Naseer Bajwa
- Developed a state-of-the-art CAD system for glaucoma detection using Retinal Fundus Images, with robust generalization across SMDG-19 and G1020 datasets.
- Integrated Explainable AI (Grad-CAM, attention mechanisms, LLM-generated reports) to provide visual and quantitative transparency for clinical professionals.

Education

National University of Sciences And Technology (NUST) *Jun 2024*
B.Sc. in Computer Science – Majors in Artificial Intelligence & Deep Learning Islamabad, Pakistan

Skills & Certifications

AI/ML: Agentic Systems, RAG, RLHF, LLM Fine-Tuning, Model Evaluation, PyTorch, LangChain, Detectron2
Backend & Databases: Python, FastAPI, PostgreSQL, Redis, Node.js, MEAN Stack, Java, REST APIs
Cloud & DevOps: GCP, AWS (Bedrock), Docker, CI/CD, Apache Kafka, Mulesoft, Salesforce
Mobile & Web: Flutter, Firebase, Next.js, JavaScript, HTML/CSS

Certifications: Mulesoft Certified Developer L1, Microsoft Power Platform Fundamentals (PL-900), Applied Data Science Specialization, Machine Learning with Python