

HAMZA IFTIKHAR

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SUMMARY

Motivated and detail-oriented Computer Science graduate with hands-on industry experience in full-stack development and applied artificial intelligence. Specialized in building intelligent systems using machine learning, deep learning, large language models, and Agentic AI, alongside developing scalable applications with .NET, Angular, RESTful APIs, and PostgreSQL. Experienced in research-funded projects and real-world deployments, with a proven ability to translate complex technical ideas into practical solutions. A fast learner with strong analytical thinking and collaboration skills, eager to contribute to innovative, research-driven, and impact-focused technology teams.

EDUCATION

University of Engineering and Technology Taxila Taxila, Pakistan

Nov 2021 - Jun 2025

Bachelor of Science, Computer Science

- **GPA:** 3.65 /4.00

SKILLS SUMMARY

- **Languages:** C++, Python, C#(.NET)
- **Databases/OS:** MySQL, SQLite, SQL, PostgreSQL, Windows
- **AI & ML:** Machine Learning, Deep Learning, LLMs, OpenAI, Prompt Engineering, LangChain, Agents, RAGs, Data Science
- **Cloud Platforms:** Azure, Azure ML Studio, Azure AI Foundry
- **Frameworks/Tools:** GitHub, TensorFlow, Scikit-learn, Flask, FastAPI, Arduino, VAPI, Angular
- **Soft Skills:** Communication, Problem-Solving, Research Analysis, Team Collaboration, Critical Thinking
- **Language:** URDU (Native), ENGLISH (Professional)

EXPERIENCE

DPL

OCT 2025 - Present

FullStack Developer

OnSite

- Working as a Full-Stack Developer using .NET and Angular, contributing to the development of enterprise-level FinTech applications by designing RESTful APIs, integrating PostgreSQL databases, and supporting deployment and maintenance workflows to ensure performance, reliability, and security.
- Actively involved in developing an AI-powered natural language interface that allows users to interact with databases using plain English queries, focusing on query understanding, backend integration, and automated data retrieval to reduce manual SQL usage and improve accessibility for non-technical users.

Codifica Inc.

Apr 2025 – Sep 25

Junior AI Engineer

Hybrid

- Designed and deployed intelligent voice-based AI agents across healthcare, finance, retail, and marketing sectors, reducing manual effort by over 60% and improving workflow automation.
- Implemented and optimized FastAPI-based architectures integrated with LLMs and MCP tools, enhancing system efficiency, scalability, and development speed.
- Collaborated with cross-functional teams to research, prototype, and deploy AI-driven solutions, contributing to process innovation and product performance improvements.

Oman Education and IT Ministry - Research Funded Project

Oct 2024 - Apr 2025

AI/Machine Learning Research Assistant

Remote

- Automating routine HR tasks and data queries through a virtual assistant powered by LLMs, increasing efficiency by over 3% compared to the previous global system.
- Implemented an RAG-based intelligent document processing system, tested on 1000+ documents and 50+ web pages, improving accuracy by 2% using GPT-4o, Azure Cognitive Search, semantic search, and optimized information retrieval-Research paper also Published on this.
- Developed a sales forecasting module trained on 7 years of historical data (~500K rows), achieving 97% accuracy by leveraging multiple ML models and selecting the best-performing one.
- Built an AI-powered self-service chatbot using Azure, providing instant employee support while delivering proactive

insights and analytics for strategic decision-making.

Microsoft

Jan 2024 – Sep 2025

Microsoft Learn Student Ambassador-BETA

Remote/Online

- Organized and led 20+ webinars and training sessions on Azure services and AI technologies, benefiting 800+ students and professionals.
- Spearheaded a team to promote Microsoft technologies, increasing engagement in local community events by 30%.
- Co-led the MLSA UET Taxila Chapter (2024-2025) and gained expertise in Azure, Cloud, and deploying applications using Azure ML Studio and Flask.

Bytewise Limited

Jun 2024 - Sep 2024

Machine Learning / Deep Learning Intern

Remote/Online

- Implemented & compared multiple Machine Learning & Deep Learning algorithms across 10+ datasets, analyzing performance metrics to optimize model accuracy.
- Completed 5+ hands-on AI projects using Scikit-learn and Azure AI Foundry, applying advanced algorithms in real-world scenarios to improve predictive accuracy
- Collaborated with a team of 5+ ML engineers and industry experts at Bytewise Limited to enhance AI solutions and optimize model performance.

PUBLICATION

- **AzureIQ-RAG:** “Hybrid RAG System for Automated Information Retrieval and Semantic Query Answering Using Azure AI.”
 - Publisher: IEEE
 - Developed "AzureIQ-RAG" an AI-powered hybrid Retrieval-Augmented Generation (RAG) system integrating Azure OpenAI and Cognitive Search. The system automates information extraction and question-answering from multi-format documents (PDF, DOCX, TXT) and websites. Achieved 94.77% accuracy on 950+ documents and 75.22% on 50+ websites by employing embedding, reranking, and session-based memory for contextual query handling.

PROJECTS

Visual Bake

- Developed an AI-powered cake design generator integrating LangChain and GPT-4 Omni to create automatic prompt pipelines for text-to-image model generation.
- Built real-time 3D visualization and customization features, boosting customer satisfaction by 40% and reducing design inconsistencies by 30%.
- Integrated a modular auto-prompt builder and fine-tuned generation workflow using Stable Diffusion, improving creative consistency and customer alignment.

AI-Based Database Query Agent

- Developed an AI-powered database agent that enables users to retrieve and analyze data using natural language queries without writing SQL.
- Implemented schema-aware query understanding to translate user intent into optimized database queries while enforcing access and data integrity rules.
- Integrated the agent with relational databases to support real-time question answering and structured data exploration for non-technical users.

Ares – Autonomous AI Engineering System (Open Source)

- Designed and implemented an AI agent-based system that analyzes full codebases, interprets business requirements documents, and autonomously plans, implements, tests, and validates features in isolated feature branches.
- Built a multi-agent architecture integrating Git repositories, local codebases, automated testing pipelines, and execution environments to ensure end-to-end feature correctness before pull request creation.
- Developed closed-loop workflows for task planning, code modification, unit testing, error recovery, and verification, reducing manual developer intervention in sprint-level development tasks

AWARDS AND ACTIVITIES

- Talent Tribute Award on Capital Youth Expo-2022 Pakistan.
- BTL Ambassador Award (All Pakistan Media Competition).
- POF Merit Scholarship (2019, 2021, 2022, 2023)..
- Cricket Runners-up UET Taxila Sports week 2022, 2023.
- Participated in CUST Hackathon.
- Technical Quiz Runner-ups in University of Wah in 2024.
- Attended Devfest 23.24 organized by GDG Islamabad.