Hamza Ghaffar

AI-assisted Automation & DevOps Engineer | Python | CI/CD | Docker | AWS | Linux | Applied ML with 2 years of Impactful Experience

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Villach, Austria (Open to Relocate) 1996-05-23 LinkedIn GitHub

Professional Experience

Software Automation Intern (Full-Time), 02/2025 – Present | Villach, Austria

Infineon Technologies Austria

- Pioneered a structured end-to-end evaluation of Keysight Eggplant for GUI test automation at Infineon, working with engineers to convert real use cases into measurable criteria (stability, maintainability, coverage, reporting) and delivering an adoption recommendation that reduced tool selection risk and targeted a 30% to 40% reduction in manual regression effort.
- Engineered Jenkins CI/CD enhancements by introducing automated build and test stages plus faster feedback loops, cutting iteration time by about 20% and improving the reliability of automation workflows in Linux environments.
- Built code quality governance with SonarQube through analysis integration, quality gates, and trend reporting, reducing manual review workload by roughly 15% to 25% and helping teams identify root causes earlier using data-backed signals.
- Established a 17-stage EDA data pipeline for chip package board co-design, integrating outputs from 8 EDA tool domains into schema-governed AI-ready data products using a Medallion architecture (Bronze, Silver, Gold, Nectar) with automated quality gates, documented lineage, and versioned datasets, reducing data discovery and preparation time from hours to minutes and improving auditability for downstream analytics and AI.

L2 Network & IT Engineer (DevOps Automation Focus), 09/2022 – 09/2023 | Islamabad, Pakistan

Huawei Ltd, Pakistan

- Streamlined software delivery by implementing CI/CD practices with Jenkins and Docker, reducing release turnaround time by about 30% and improving consistency across deployments.
- Automated operational and testing workflows using Python scripting, cutting repetitive manual effort by roughly 40% and increasing reliability of routine checks.
- Supported production networking and IT operations in MPLS/VPN environments, troubleshooting incidents, coordinating with cross-functional teams, and reducing recurring issues through structured root-cause analysis.
- Improved service stability by monitoring deployments and system behavior, documenting runbooks, and standardizing procedures, which reduced critical faults by around 20% and strengthened day-to-day operational readiness.

L2 Network Automation Support Intern, 10/2018 – 04/2019 | Lahore, Pakistan

Al-Khawarizmi Institute of Computer Science (KICS), UET, Pakistan

- **Built** small troubleshooting utilities to collect and parse device outputs (interfaces, routing summaries, logs), improving first-pass resolution and reducing escalation loops.
- **Standardized** support procedures by documenting runbooks and common fixes, improving handoffs and making recurring issues faster to resolve.
- **Assisted** with basic network automation workflows, including configuration validation and scripted checks, helping improve consistency and reduce human error during repetitive operations.

Education

M.Sc in Communication Engineering, *Fachhochschule Kärnten* 09/2023 – 2026 | Klagenfurt, Austria
Master's Thesis: Automated Network Configuration Using SDN for Cloud and Edge Environments.

B.S. Information Technology (Major in Computer Science), 08/2014 – 08/2018 | Multan, Pakistan
University of Education, Lahore

Skills

Python • SQL • PyTorch • GitLab • Unix • MLFlow • Tableau • Scikit-Learn • FastAPI • REST APIs • CICD • Docker • SonarQube • Jenkins • SDN • Data Engineering • SQL • NOSQL

Languages

English
C1 Level

Projects

Curiosity-Driven Personal Projects:

- **AI-assisted Automation & DevOps:** Built a containerized edge-to-cloud pipeline that ingests camera detection events via FastAPI and stores them in MariaDB. Delivered a web dashboard using Chart.js and AJAX to visualize time-based detection data.Python-based automation for testing, debugging, and log analysis, with CI/CD implementation and pipeline hardening using Jenkins and Docker in Linux environments.
- **CI/CD & Quality Engineering:** Experience improving build and validation workflows, integrating quality gates and static analysis using SonarQube, and reducing manual effort through repeatable automation.
- **Data Pipelines & AI Readiness:** Built and standardized data pipelines that convert fragmented tool outputs into structured, traceable, AI-ready datasets with validation and governance patterns suitable for downstream analytics and ML.
- **Applied ML:** Hands-on work with machine learning concepts including anomaly detection, forecasting, with a focus on practical deployment patterns via APIs and containerization.
- **Observability & Operations Mindset:** Familiar with monitoring and telemetry patterns using Prometheus and Grafana, enabling feedback-driven systems and faster incident triage.

MLOps and ML Engineering

FastAPI for inference endpoints, Dockerized ML services, Experiment Tracking Concepts, Monitoring Concepts for ML systems Regression, Classification, Clustering, Time-Series Forecasting, Anomaly Detection, Feature Engineering, Model Evaluation and Validation

Deep Learning

Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNN/LSTM), Transformers (BERT/GPT), Generative Models (GANs, Diffusion), Graph Neural Networks (GNN)

Data Engineering and Pipelines

Data Ingestion, Data Cleaning, ETL/ELT Concepts, Data Validation and Quality Checks, Schema Design Basics, Data Modeling Fundamentals, Reproducible Pipelines

Soft Skills

Teamwork, Stakeholder Communication, Critical Thinking & Problem-Solving, Mentoring & Knowledge Sharing, Adaptability, Time Management