Gulbaz Khan

Software System Architect & MATLAB Specialist

Frankfurt | gulbazkhan1114@gmail.com | +491791628918
gulbazkhan.com | LinkedIn

PROFESSIONAL SUMMARY

I am a software engineer and electrical engineering graduate with 3+ years of experience across backend development, AI, telecom, and hardware-related systems. I work with Python/Django, Node.js, Flutter, React/Vue.js, Laravel, and DevOps/security tools to build secure, scalable applications, including mobile apps, ERP systems, Shopify plugins, LLM/RAG solutions, and network dashboards for international clients. My focus is computational methods for electrical and computer engineering to deliver practical, research-driven engineering solutions.

EXPERIENCE

Research Assistant
Radiation Detection & Imaging Technologies, United States | Jan 2021 – Jul 2021

- Implemented tomography reconstruction algorithms in Python with NumPy and TensorFlow, cutting reconstruction time by 25% in a signal-processing-rooted imaging pipeline.
- Ported **MATLAB** research code to Python, accelerating execution 3x and grounding day-to-day fluency across MATLAB and equivalent numerical environments.
- Integrated KiCAD PCB data extraction into an automated circuit-analysis workflow, bridging physical hardware modeling and software pipelines.

Data Analysis & Reporting Engineer
Wateen Telecom, Lahore, Pakistan | Jan 2023 – Aug 2023

- Built Python reporting pipelines over PostgreSQL that automated telemetry data collection for network performance and signal-quality monitoring across 500+ nodes.
- Analyzed telemetry from 500+ network nodes via OpManager and SolarWinds to surface bottlenecks and capacity trends for stakeholders.
- Developed Power BI dashboards translating raw network telemetry into actionable KPIs for proactive health tracking.

Freelance Software Engineer
Freelance, Remote | Jan 2018 – Dec 2025

- Developed Python (Tkinter/PyQt) desktop **GUI** applications for data entry, monitoring and reporting workflows with **MATLAB** GUI-style desktop tooling patterns.
- Built and deployed containerized applications with Docker, supporting reproducible simulation and modeling environments from local development to production.
- Engineered Python time-series visualization for the Termosuite heating monitoring system, applying numerical and signal-processing-adjacent techniques to real telemetry.

Senior Fullstack Developer
ITVISION, Lahore, Pakistan | Aug 2023 – Sep 2025

- Led architecture for 3+ ERP modules, optimizing slow SQL/PHP code paths and rewriting queries to take a critical profit/loss report from 10–20 minutes down to ~15 seconds.
- Coordinated cross-functional delivery across 15+ enterprise client engagements, mirroring the cross-functional collaboration expected from a system architect.
- Shipped React/Next.js front ends with SSR and maintained full-stack systems end-to-end across Python, PHP and JavaScript runtimes.

Remote DevOps / Security Engineer
Freelance, Remote | Mar 2025 – Oct 2025

- Built GitHub Actions pipelines integrating 6 security and quality tools, cutting manual triage time by ~40% for embedded-adjacent delivery stacks.
- Designed automated compliance and vulnerability monitoring pipelines across 10+ repositories, applying system-level observability discipline.
- Wrote Jenkins shared libraries and custom pipeline logic in Java/Kotlin to streamline build, test and release

automation.

SKILLS

Languages: Python, JavaScript, TypeScript, SQL, Bash, Java, Kotlin, PHP

AI & Data: NumPy, TensorFlow, Data Analysis, Reporting, Power BI, LLMs, NLP, Digital Signal Processing (DSP)

Backend: Django, Node.js, PostgreSQL, MySQL, Flask

Tools: Git, GitHub, WireShark, SolarWinds, Microcontroller programming, Assembler programming

DevOps & Cloud: Docker, GitHub Actions, Jenkins, CI/CD, Datadog, New Relic

Frontend: React, Next.js, Vue.js

PROJECTS

Microgrid Power Quality Controllers
Final Year Project — Comparison of PID, SMC, ASMC, BELBIC controllers for power quality enhancement in MATLAB/SIMULINK.

DC-DC Boost Converter Controller
Voltage-Mode Robust Controller designed using digital logic, tested on MULTISIM platform.

SynergyGEOS
Real-time condominium energy monitoring portal with Twilio/SIM-based automated meter readings and SMS alerts.

NZ Real Estate Data Scraper
Distributed web scraping system for NZ real estate — scrapes 4 major sites (Trade Me, Ray White, Harcourts, OneRoof) with 10+ distributed workers processing 1M+ listings into PostgreSQL.

EDUCATION

MSc in Computational Engineering
FAU Erlangen-Nürnberg, Erlangen, Germany | Oct 2025 – Apr 2028

Focusing on computational methods for electrical and computer engineering.

BSc in Electrical Engineering
University of the Punjab, Lahore, Pakistan | Nov 2018 – Jan 2023 | GPA: **3.4/4.0**

Studied communication systems, wireless networks, optical fiber, RF & microwave engineering, and digital signal processing. Hands-on experience in network security, embedded systems, and control systems.

LANGUAGES

English: Full professional proficiency

German: Basic (A2)

Urdu: Native

INTERESTS

Gardening, Hiking, Cooking, Cycling