HAROON SALEEM

Electrical Engineer & Software Developer

Islamabad, Pakistan • +92 317 5255198 • haroonhsa1234@gmail.com
GitHub : Haroonhsa007 • LinkedIn : HaroonSaleem007

PROFESSIONAL SUMMARY

Full Stack Developer and Electrical Engineer with expertise in AI-powered systems, embedded solutions, and scalable web applications. Proven track record in developing real-time VIOP telephony systems, CRM platforms, and hardware-software integration projects. Strong foundation in both modern software development and electrical engineering fundamentals.

EDUCATION

MSc Electrical & Computer Engineering   2024–Present
National University of Science & Technology, Islamabad, Pakistan
BSc Electrical & Computer Engineering   2020–2024
Capital University of Science & Technology, Islamabad, Pakistan

PROFESSIONAL EXPERIENCE

Full Stack Developer   January 2024 – January 2026
VEEIVS, Islamabad, Pakistan

- Built backend services in **Python** using **Django, DRF, FastAPI, and Flask** for real time voice systems, CRM workflows, and AI driven integrations.
- Designed and maintained **REST APIs** consumed by **React.js** frontends, supporting authentication, role based access, live call state, transcripts, analytics, and billing flows.
- Implemented real time voice pipelines using **Twilio, Telnyx, and LiveKit**, using webhook driven **FastAPI** services for call control, routing, and error handling.
- Integrated speech AI services for **STT and TTS**, including **Deepgram** and **ElevenLabs**, managing retries, latency, and audio lifecycle management.
- Orchestrated **LLM driven conversational flows** using **Vapi**, handling multi turn dialogue, session memory, action triggers, and fallback logic.
- Built backend services for a **voice AI assistant**, coordinating real time audio streams, conversation state, and AI responses.
- Developed an **AI powered QA management system** for automated **call summaries**, **disposition classification**, and **compliance validation** across recorded voice interactions.
- Designed CRM backend features for users, campaigns, permissions, interaction tracking, and multi campaign workflows using **Django** and **PostgreSQL**.
- Modeled and optimized relational data in **PostgreSQL** on **AWS RDS**, improving query performance for call logs, QA results, analytics, and billing records.
- Implemented **Redis** for caching, session state, rate limiting, and **Celery** based asynchronous background processing.
- Deployed containerized services using **Docker** on **AWS ECS, ECR, and EC2**, supporting horizontal scaling and service isolation.
- Configured **AWS S3** for call recordings, **DynamoDB** for low latency session metadata, and **AWS Lambda** for event driven backend tasks.

- Set up **CI/CD pipelines** using **GitHub Actions** for automated testing, image builds, and production deployments.
- Reviewed and validated **LLM prompts and AI generated backend code**, focusing on API correctness, performance impact, and production readiness.
- Collaborated with frontend, product, and DevOps teams to deliver stable voice driven CRM and analytics features aligned with business requirements.

Full Stack Developer   April 2023 – December 2023
Mar's LLC, Rawalpindi, Pakistan

- **Specialized in speech-AI engineering** by building an end-to-end voice AI assistant, integrating **Deepgram for STT** and **ElevenLabs for TTS** within a **real-time audio pipeline** using LiveKit, focusing on **latency optimization** and smooth voice interactions.
- Developed **conversational AI flows** via Vapi integration, gaining practical experience in **multi-turn dialogue, context management, and voice-driven workflow** orchestration for enterprise tools.
- Engineered an **end-to-end AI assistant pipeline** for **real-time voice interactions**, integrating **LiveKit** for audio streaming, **Vapi** for conversational flow orchestration, and backend AI services.
- Designed and developed a **scalable multi-campaign CRM platform** to manage **users, campaigns, permissions, and interaction workflows**, supporting **operational and business requirements**.
- Built and deployed **secure, well-documented RESTful APIs** using **Django** to enable seamless integration with frontend applications developed in **React, Vite, and Expo**.
- Collaborated with **frontend and product teams** to translate business requirements into **reliable backend services** and **user-facing features**.
- Ensured **code quality, performance, and maintainability** by following **best practices in API design, testing, and documentation**.

Trainee Engineer – VSAT Engineering Department   Aug 2022 – Sep 2023
Pak Datacom Limited, Islamabad, Pakistan

- Monitored and optimized **VSAT satellite communication systems** for **real-time remote connectivity**.
- Improved **link establishment between remote sites and HQ** through **infrastructure validation and tuning**.
- Reduced **system downtime** through proactive **hardware diagnostics, testing, and operational documentation**.

System Administrator Intern   August 2020 – March 2021
ICVPL, Islamabad, Pakistan

- Managed, configured, and maintained **Windows Server environments**, including **Active Directory, DNS, DHCP, and Group Policy Objects (GPOs)**, to support **enterprise user and device management**.
- Implemented and maintained **VPN access** for secure remote connectivity and managed **WSUS patching** to ensure timely operating system updates and improved endpoint security.
- Developed **PowerShell scripts** to automate **user provisioning, access management, and system monitoring tasks**, reducing manual effort and administrative overhead.
- Assisted in **monitoring system health, troubleshooting infrastructure issues**, and ensuring **high availability** of core IT services.

Software Developer Intern   May 2020 – June 2020
ICVPL, Islamabad, Pakistan

- Customized and enhanced **ERP modules** for **finance and supply chain operations** using **C# and .NET**, improving system performance and reducing transaction latency.
- Integrated **inventory management and payment processing systems** to improve **data consistency, accuracy, and real-time reporting**.

- Collaborated with **senior developers and business stakeholders** to gather requirements, implement features, and deliver **stable software enhancements**.
- Participated in **testing, debugging, and documentation** to ensure **reliable deployments** and **maintainable codebases**.

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, C/C++, C#
Web Technologies: Django, FastApi, Flask, React, Node.js, HTML, CSS, REST API, WebRTC, SIP
AI & Machine Learning: Deep-gram, Eleven-labs, Vapi, Telnyx AI, OpenCV, TensorFlow, Computer Vision, LLM, Rag Pipeline
Telephony & Communication: Telnyx, Twilio, Asterisk, Free-switch, Kamailio, OpenSIP, WebRTC, SIP, VSAT Systems
Cloud & DevOps: AWS (EC2, S3, RDS, ECS/ECR, Dynamo-dB, Lambda), Docker, GitHub Actions, CI/CD, NGINX, Linux
Databases & Tools: PostgreSQL, SQLite, MySQL, Git, Postman, Unit Testing (PyTest)
System Administration: Windows Server, Active Directory, DNS, DHCP, PowerShell, VPN, WSUS

SOFT SKILLS

- Leadership & Mentoring: Guided junior developers and conducted code reviews.
- Collaboration & Teamwork: Worked with cross-functional teams to deliver projects.
- Problem-Solving: Troubleshot complex systems and optimized performance.
- Communication: Published technical documentation and architecture designs.
- Adaptability: Handled diverse tech stacks from AI to embedded hardware.
- Time Management: Managed migrations, deployments, and high-volume workflows.

KEY PROJECTS

- **Voice-Enabled AI Assistant:** Engineered a real-time AI assistant integrating **Deepgram (speech-to-text)**, **Vapi** for conversation orchestration, **ElevenLabs (text-to-speech)**, and **Telnyx AI** for dynamic telephony. Implemented **webhook-controlled call flows** for intelligent routing, event handling, and automated responses.
- **AI-Powered QA Management System:** Developed a system for automated call analysis, featuring **AI-generated call summaries**, **sentiment and topic-based call disposition**, and **compliance monitoring**. Engineered pipelines for speech analytics, data extraction, and reporting to ensure quality assurance and regulatory adherence.
- **Multi-Campaign CRM Platform with Call Tracking:** Designed and developed a comprehensive CRM supporting multiple campaigns, featuring **embedded dialer tools**, **real-time call monitoring**, **call analytics dashboards**, fine-grained **role-based permissions**, and **real-time user activity tracking** to optimize campaign performance and operational efficiency.
- **Call Tracking and Monitoring System:** Built a robust **call management system** using Telnyx and Twilio APIs for **SIP/VoIP and WebRTC calls**. Included features such as **call recording**, **real-time call logs**, **caller analytics**, and **custom alerting and monitoring** for high-volume telephony environments.
- **Enhanced Palm Print Recognition:** Developed an advanced **biometric authentication system** using document scanner imagery, implemented in **Python and MATLAB**, for high-security identity verification applications.
- **FPGA Image Processing:** Implemented **sharpness and smoothing filters** on **FPGA Spartan 3** using **MATLAB and Verilog** for **real-time image processing** and hardware acceleration.

- **Dockerized Microservices for Cloud Deployment:** Containerized **Django and Node.js microservices** using **Docker**, deployed on **AWS** with auto-scaling, high availability, and secure **cloud infrastructure management**.
- **Real-Time IoT Monitoring Platform:** Built an **IoT sensor network** to monitor environmental parameters with **real-time dashboards**, event alerts, and cloud integration for data analytics.
- **Secure Payment and Subscription System:** Implemented automated subscription workflows and **payment gateway integration (Stripe)** with webhooks for plan management, transaction handling, and analytics reporting.

AREAS OF EXPERTISE

Full Stack Development	Designing Rest API Service
Rest Api Optimization	AI-Powered Voice Systems
Telephony APIs (Twilio, Telnyx)	Call Tracking and Monitoring Systems
Embedded Systems	CRM Design and Analytics
WebRTC	Microservices Architecture
Cloud Architecture (AWS)	Secure Payment Integration
Hardware-Software Co-design	IoT Systems
Real-Time Systems	OpenSIPS Certified

CERTIFICATIONS

- **Full Stack Developer 101** — Certificate
- **Python Django 101** — Certificate
- **Asterisk Certified Essentials** — Certificate
- **OpenSIPS Training 3.2** — Certificate
- **PBXact Certified Essentials** — Certificate

ACHIEVEMENTS

2nd Place – Final Year Project: Enhanced Palm Print Identification System (2024)

Strong academic performance in Electrical & Computer Engineering