

PHILLIP L. SMITH

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AI-Driven RAN | Wireless Engineering | Applied AI and Automation

PROFESSIONAL SUMMARY

AI/ML engineer with a deep RAN and wireless telecom engineering background, applying that domain depth to build production-grade AI automation for network operations and Cloud RAN. Delivers end-to-end AI/ML solutions using Python, FastAPI, LLMs, RAG, vector databases, agentic workflows, REST APIs, automated testing, Docker, and edge AI. Experience spans closed-loop network automation, human-in-the-loop approvals, model evaluation, enterprise workflow automation, observability, and critical-infrastructure decision support.

PROFESSIONAL EXPERIENCE

RAN Engineer - Utility Private LTE Network Operations

Jan 2026 - Present

ECCO Select | Utility pLTE Critical Infrastructure | Arlington, TX

- Support RF performance, KPI analysis, troubleshooting, incident response, and operational readiness for utility pLTE critical infrastructure carrying mission-critical communications.
- Analyze LTE KPIs, counters, mobility, interference, capacity, alarms, and service degradation using Ericsson ENM/AMOS, NETSCOUT nGeniusONE, TrueCall, and OneLayer.
- Perform root-cause analysis for drops, blocks, handover issues, call-setup failures, throughput degradation, and uplink interference; support remote-remediation and field-dispatch decisions.
- Develop and maintain Private LTE runbooks, MOPs, test procedures, and operational documentation with vendor and utility operations teams.

Principal Consultant - Private Wireless & Applied AI

Jul 2024 – Present (PT)

Milewire LLC | Arlington, TX

- Led applied AI engineering engagements - requirements, Python/API development, RAG, agentic workflows, and deployment - for enterprise and critical-infrastructure clients.
- Delivered two paid production AI solutions: a RAG system for document-grounded knowledge retrieval and a Voice AI reception agent integrating conversational AI with automated enterprise workflows.
- Designed a client-facing AI meeting-planning system and end-to-end generative AI pipelines (ASR, LLM reasoning, RAG, TTS), with human approval points and automated testing built in.
- Built Python/FastAPI services and agentic decision-support workflows using REST APIs, SQL, vector databases, and Docker, with fallback logic and human review for operational decisions.

Verizon Network Engineer

Mar 2022 - Jul 2024

ARTEC, LLC | Arlington, TX

- Configured and validated Nokia and Samsung RAN parameters during integration and vendor equipment migration on live networks; monitored PRB utilization, SINR, CQI, BLER, handover rate, and throughput.

Samsung Network Engineer

Sep 2021 - Jan 2022

TeleWorld Solutions | Arlington, TX

- Commissioned and integrated Samsung 4G/5G/CBRS radio equipment in Verizon's live network and diagnosed KPI degradation, hardware faults, and spectrum interference.

AT&T Integration Engineer

Nov 2019 - Mar 2021

AIM Technical | Arlington, TX

- Delivered remote integration services for AT&T Ericsson LTE/5G sites using scripting and OSS automation tools; conducted parameter audits, KPI monitoring, and ENM alarm troubleshooting.

Project Manager / RAN Engineer

Sep 2010 - Jul 2019

WCOMGROUP / Contractor Projects | TX / NJ / CA

- Led end-to-end network deployment projects for T-Mobile, AT&T, Verizon, and Sprint, directing cross-functional contractors, vendors, and consultants.

SELECTED AI ENGINEERING PROJECTS

- **Closed-Loop RAN Automation:** Python, Ollama (local LLMs), scikit-learn, systemd - Built an unattended closed-loop fault detection and diagnosis engine for LTE RAN (detect, diagnose, decide, verify, escalate) with rule-based classification across six fault patterns and a tiered automated/human-approval policy; validated against real production pLTE KPI data, catching and fixing a diagnosis-mislabeling defect; evaluated four local LLMs for root-cause classification; deployed unattended on NVIDIA Jetson edge hardware.
- **AI-Assisted Meeting Planner:** In Development - OpenAI, Next.js, TypeScript, Prisma, Asana REST API - Built an enterprise GenAI workflow that shares context across planning stages, routes work through generation and review steps, enforces evidence provenance and validation, handles exceptions, and preserves human approval before final outputs.
- **AI Voice Receptionist:** In Development - Python/TypeScript, OpenAI GPT-Live, Responses API, REST APIs, persistent conversation memory, developing a voice receptionist for multi-turn customer interactions, with full-duplex speech and delegated backend reasoning. Implementing tool-driven workflows for customer lookup, appointment scheduling, and service inquiries, with persistent context across interactions. Designing action validation, confirmation rules, error recovery, and human handoff to support reliable task execution.
- **Production RAG System:** Python, FastAPI, Qdrant, OpenAI Embeddings - Delivered an end-to-end RAG architecture spanning ingestion, chunking, embeddings, vector retrieval, grounded generation, REST APIs, testing, deployment, and production knowledge access.
- **Agentic Workflow Automation:** OpenAI, Python/API Integration, Workflow Automation - Built agentic automation patterns for enterprise tasks using structured context, task sequencing, tool/API calls, exception handling, fallback strategies, and human approval checkpoints.
- **MileBase Edge AI / Local AI:** NVIDIA Jetson AGX Orin, PyTorch, TensorRT, CUDA, ONNX - Built and benchmarked local inference, computer-vision, and edge AI workloads for GPU-accelerated, offline operational AI.

EDUCATION

The University of Texas at Austin - McCombs School of Business

Post Graduate Certificate in Generative Applied AI for Business Applications

Post Graduate Certificate in Artificial Intelligence and Machine Learning

TESST Electronics & Computer Institute

Certificate Program in Electronics and Computer Technology

TECHNICAL SKILLS

- **AI Engineering:** Generative AI, LLMs, RAG architectures, AI agents, agentic workflows, prompt engineering, computer vision, edge AI, vector embeddings
- **Software Engineering:** Python, FastAPI, JavaScript, TypeScript, SQL, REST APIs, API integration, automated testing, pytest, Git, GitHub, Docker, Linux, modern DevOps practices, Cursor IDE, IntelliJ IDEA
- **AI / Data Platforms:** OpenAI, Hugging Face, Qdrant, ChromaDB, PostgreSQL, SQLite, NVIDIA AI Stack, vector databases; cloud exposure across Azure, AWS, and GCP
- **AI / ML Systems:** PyTorch, TensorRT, CUDA, ONNX, NVIDIA Jetson, computer vision, model evaluation, inference benchmarking, observability, human-in-the-loop decision support
- **Wireless & Telecom:** Private LTE, 4G LTE, 5G NR, CBRS, RAN Engineering, KPI Analytics, AI-assisted anomaly analysis, Incident Management, RCA, Ericsson ENM/AMOS, Nokia NetAct, OneLayer, NETSCOUT