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AI-Driven Network Solutions Leader | Generative AI | Agentic AI | LLMops | 5G Core & Cloud Architect | DevOps Strategist

OBJECTIVES

Technology leader with over 15 years of experience across Telco, Generative AI, Agentic AI, and LLMops ,Cloud, and AI domains. Proven expertise in 5G Core Network architecture, Cloud-native DevOps, AI/ML pipeline deployment, and operational excellence. Currently leading initiatives at the intersection of Generative AI, Agentic AI, and LLMops to build intelligent, self-improving, and resilient telecom infrastructures. Strong focus on transforming legacy systems with intelligent automation, language model deployment, and agent-driven orchestration frameworks.

TECHNICAL SKILLS

Core Competencies : AI enthusiast with strong foundational knowledge in GenAI, RAG techniques, and MLOps workflows. Actively building personal projects leveraging LangChain, vector databases, and LLM APIs. Seeking opportunities to apply skills in real-world GenAI applications.

- **Generative AI & Agentic AI:** LangChain, Prompt Engineering, OpenAI, HuggingFace, Retrieval-Augmented Generation (RAG), Autonomous Agents (CrewAI, LangGraph,)
- **LLMOps & AI Deployment:** MLflow, Weights & Biases, Ray, FastAPI, Docker, Kubernetes (EKS), Helm, CI/CD, MLOps pipelines
- **Telco Networks & Cloud Platforms:** 3G/4G/5G | Core (UPF, SMF, AMF, etc.) | CNF | RAN | ORAN | vRAN | AWS
- **Automation & Scripting:** Python (NLP, ML, FastAPI) | YAML | Terraform | GitHub Actions | Jenkins
- **AI Frameworks:** PyTorch, TensorFlow, Scikit-learn, NLTK, Transformers, spaCy, LangChain
- **Data Analytics & Visualization:** Power BI | Tableau | Pandas | Matplotlib | Actix | TEMS

Tech & Tools

- **3G |4G| LTE | VoLTE | RAN |ORAN |VRAN**
- **Cloud Service Provider : AWS, Amazon Bedrock Vertex AI**
- **Container Tools : Docker Kubernetes**
- **Scripting : Python , YAML**
- **Automation Tools : Terraform**
- **Data Visualization and Reporting : Tableau .**
- **Model Versioning : DVC , MLflow , Weights & Biases**
- **Telco Analysis Tools**
TEMS Investigation | TEMS Visualization |TEMS Discovery | ACTIX Analyzer | Actix classic GNG Full Spotlight | Business Object /

EXPERIENCE

Quadgen Wireless Solution Pvt LTD

Role: Technical Manager -5G Core

Tenure: JUN 2024 – PRESENT

- Spearheading the integration of Generative AI to dynamically configure and troubleshoot the 5G network using LLM-powered agents.
- DVC Integration: Leverage DVC to manage large-scale datasets (historical network logs, configuration data) used for training generative models, ensuring versioning of data for reproducibility.
- MLflow Integration: Implement MLflow for tracking training experiments, managing models, and automating model deployment for network configuration agents.
- Leading the development of Agentic AI systems for real-time network monitoring and auto-resolution using LangChain with Retrieval-Augmented Generation (RAG) for intelligent decision-making.
- DVC for Historical Data Versioning: Use DVC to version ticket data and network logs, which are continuously used for fine-tuning the LLMs.
- MLflow for Model Monitoring: Utilize MLflow to track the model's performance (accuracy, response times, etc.) and versioning of fine-tuned models.

Mastec Quadgen Wireless LLP

Role: DevOps Engineer (Lead)

Tenure: JAN 2022 – JUN 2024

- Project prerequisite planning, designing, and implementing 5G Network infrastructure and deployment.
- Coordinate with the teams and stakeholders, manage resources, and address any issues that may arise during deployment and R&D process.
- Deployed E2E CICD pipelines for 5G CNFs and AI services across multi-node EKS clusters.
- Integrated ML models for anomaly detection into telecom dashboards.
- Automated CNF deployment & infrastructure setup using Terraform, Helm, and Kubernetes.
- Integrated telemetry systems with Prometheus and Grafana for real-time network and AI model Performance.
- Deployment of 5G Core Network function on On-premises VM and Cloud. 5G Node Functions e.g. AUSF, UDM, PCF, SMF, AMF, UPF, NRF and UDR)
- Wireshark trace and RLS di-sector configuration with core and RAN to Achieve and decode L3 Message
- AI-Powered Network Assistant: Built with OpenAI APIs, LangChain, and internal network logs for proactive troubleshooting, root-cause analysis, and alert summarization.
- Agentic AI for Telco Ops: Implemented task-driven agents for real-time decision-making, command execution on network elements, and ticket triage via vector embeddings.
- LLMops Pipelines: Managed lifecycle of fine-tuned transformer models for call drop prediction, using MLflow, Ray and FastAPI; deployed on EKS.
- 5G Core Intelligent Testing: Integrated agent workflows for test case generation, trace analysis (Wireshark + LLM), and automatic documentation using GenAI.
- Track the performance of AI models integrated into the 5G CNFs (e.g., anomaly detection models) via MLflow, ensuring consistent model performance across deployments.
- Use DVC to manage the versions of configuration files and deployment artifacts related to 5G Core Network Functions (CNFs).
- Automate model deployment as part of the Kubernetes pipelines with MLflow to handle model versioning and deployment

General Technical Services

Role: Data Analyst

Tenure: JUN 2018 - JULY 2020

Responsibilities:

- Worked in Multifunctional environment to implement Analytics best practices with respect to experimental Data Analysis, Data Science, Data Reporting and Data Visualization
- Created numerous simple to complex SQL Queries involving joins, correlated sub queries for diverse business requirement.
- Prepared User Manual and Presentations for the Customer and Users
- Performed Supervised and Unsupervised Machine Learning Techniques
- Created Tableau scorecards, dashboards using stack bars, bar graphs, scattered plots, Gantt charts using show me Functionality
- Journal Recommendation system (built on NLP (natural language processing))
- Harmonized Code Recommendation system (built on NLP (natural language processing))
- Build a Chatbot with Amazon Lex for Student support (built on NLP (natural language processing))

Ericsson

Role: Senior Network Analyst

Tenure: MAY 2016 - MAY 2018

Responsibilities:

- Data Reporting and Data Visualization
- Created Tableau scorecards, dashboards using stack bars, bar graphs, scattered plots, geographical maps, Gantt charts
- functionality
- Designed customer Report dashboard using Tableau to visualize the analysis
- Involved in creating Dashboards, reports as needed using Tableau Desktop and Tableau Server.
- Created customize share interactive web dashboards with simple drag drop.
- Developed Graph and Reports and presentation for project report.
- Network Events Classification modeling using machine learning
- Prediction of Call Drops in 3G/GSM Network
- Individual site/cell parameter tuning recommendation model for call drop.
- Cluster and county parameter tuning recommendation model for call drop.
- Used UMTS, LTE use cases for ML model building.
- Involved in requirement gathering and architecture design.
- Building data cleansing pipeline to train a model.
- Developing statistical models for various predictive methods such as classification, clustering and regression.
- Involved in parameter tuning process for optimal model hyper-parameters.
- Generate actionable insights from data and creating presentations and dashboards to make recommendations for improvement
- Scripting using Python language to develop the model for Data Pre - Processing and Data Transformation to analyse Network Performance
- and Visualization
- Logging and monitoring model performance.

Ericsson Global

Role: Senior Network Engineer

Tenure: SEPT 2014 - MAY 2016

Responsibilities:

- Analyzed existing network and application architectures, presenting findings on possible enhancements and improvements to senior decision-makers.
- Established and monitored key performance metrics to verify consistent compliance with important networking standards.
- Capacity management traffic dimension based on existing use cases analysis.
- Monitored network capacity and performance, as well as diagnosed and resolved complex network problems.
- Performed Tuning and optimization 1st, 2nd and 3rd carrier LTE systems for EE & 3UK,
- Analysis existing features and parameter and performed logical changes to improve coverage, mobility, accessibility, retainability.

- Doing Site Shake Down, Go No Go Lite Data & Voice Analysis and Report, Circuit Switch Fallback Analysis, IFHO Analysis,
- UE traces, Site parameters audits, request and verify physical and logical changes to improve coverage, mobility, accessibility, retainability and time on LTE

QuadGen Wireless solution

Role: Senior RF Engineer

Tenure: FEB 2013 - SEPT 2014

Responsibilities:

- Capacity & coverage data analysis and Visualization for clusters and county.
- Responsible for Data Pre- Processing and Data Transformation to analyse Network Performance.
- UMTS & LTE Drive Test Analysis, IRAT & IFHO Analysis, Coverage Analysis & recommendations.
- Event analysis and improve Accessibility, retainability & Mobility.
- Pilot pollution analysis, Improving RSCP/RSRP & EcNo/RSRQ by recommendations of parameters.
- Cluster analysis for LTE & UMTS and KPI Report generation.
- Single Site and cluster KPI Analysis after Launch, KPI Report generation using the Quantum, WIPS Analysis for load shearing and
- PRACH performance using the SAP- BO.
- ACTIX Spotlight/Analyzer/ GNG Cluster KPI reports to troubleshoot the issues for sites.
- Identifying the minma in the Scree plot to analyze the clustering
- Performing ANova test for the model.
- Training the new hires with the current scope of work & process.

Snachar solution /GTL Ltd.

Role: RF Engineer

Tenure: SEPT 2009 - FEB 2013

Responsibilities:

- Capacity & coverage data Visualization using Map-info, Actix Gio.
- Cross functionality work with different teams.
- Expertise in BO reports to analyze Hourly/Daily KPI's
- Instant KPI monitoring using AMOS commands.
- Performing Special Event Monitoring.
- Weekly meetings to discuss the project milestones.
- Suggest solutions, resolve queries and provide recommendations to improve the quality of network.
- Optimizing UTRAN parameters, Timers and Counters to improve Network performance.
- Analysis of poor throughput of HSDPA/HSUPA and recommend necessary changes to improve the same.
- optimization, Inter-RAT parameters, checking channel elements, and power congestion, and HSDPA Throughput
- Analysis of drive test data (Layer 3 Messages), identify weak coverage/quality areas, call related issues (CS/PS setup time, Pilot pollution,interference Ec/No, missing neighbor , call drops, RAB Drops , RRC Setup Failure Issues , RAB establishment issues, IRAT Handover

ACADEMICS

Bachelor of Technology (B.E), RGPV, Bhopal,M.P., India: Specialization in Electronics & Communications.

MOOC'S

- LangChain for Developers – LangChain (2024)
- LLMOps & MLOps – DeepLearning.AI (2024)
- Machine Learning & Deep Learning – UpX Academy
- Ericsson Academy – RNO, Python & ML
- iNeuron, Udemy – NLP, Web Scraping, AI Workflows

