Victor Perez

RF Engineer | 4G/5G Optimization Expert

**SUMMARY**

* 13 years of experience in the RF industry with a strong focus on data analysis, optimization, and data-driven decision-making.
* Experienced with Multi technology –2G, 3G, 4G, VoLTE, 5G.
* Multi-Platform experienced (Samsung, Ericsson, Nokia, Huawei)
* Played a significant role in the Nokia to Samsung LTE swap and 5G C-BAND and 5G 850 activations for Verizon Operator, applying analysis techniques to ensure smooth transitions and performance optimization.
* Key contributor to multiple high-impact projects, including VoLTE trials, 4.5G launch, and 5G C-BAND activations, leveraging data analysis to drive successful outcomes.
* Expertise in LTE and 5G layer management, mobility, reselection, and SIP message analysis, with a focus on performance improvement through data insights.
* Features implementation, evaluated the performance of network features during cluster trials and analyzed the results for broader network implementation.
* Participated in the Ericsson massive events team for the Mexican Grand Prix, utilizing data analysis to optimize Radio Resource Management.
* Proficient in ETL (Extract, Transform, Load) processes, ensuring accurate and efficient data flow from multiple sources to analysis platforms.
* Extensive experience building data models and creating impactful visualizations using PowerBI and Tableau, driving business insights and informed decision-making.
* Skilled in developing Python tools with graphical user interfaces (GUIs) for advanced data analysis and visualization of performance metrics from CSV and database files.
* Experienced in creating and executing complex SQL queries for effective data manipulation, retrieval, and analysis within relational databases.

**EXPERIENCE**

Company Name: **Teleworld Solutions**

Job Title: **RF Engineer III - 4G/5G for Samsung Electronics America**

Verizon SNAP Project

Duration:09/2021 – Now

**Data Analysis for LTE Swap Projects:** Analyzed pre-migration and post-migration KPI trends to assess the impact of swapping LTE from Nokia to Samsung, Nokia to Samsung parameter mapping, KPI creation and counter mapping between both operators.

**Top Offender Detection:** Developed and implemented data-driven tools for identifying top offenders in network performance, including cell-level KPI deviations and port imbalances, to streamline optimization efforts.

**KPI Deviation Analysis:** Conducted in-depth analysis of LTE and VoLTE KPIs (e.g., SIP Drop Call Rate, RTP Gap, E-RAB, RRC, DL/UL Throughput) to detect deviations and propose actionable improvements based on data insights.

**Vendor Data Mapping:** Created and mapped complex formulas between different vendor technologies to ensure consistent data analysis and interpretation.

**ENDC Optimization:** Performed data-driven ENDC optimization to enhance network performance and efficiency, anchor creation, B1event Trigger NR Addition Cell Addition/Removal Success Rate.

**Geospatial Analysis:** Define polygons and monitor site status on maps, integrating geospatial data for enhanced network performance analysis

**Tool Development:** Designed and developed several analytical tools, including: A tool for analyzing MRO (Measurement Report Optimization) data to detect and address handover failures. A tool for rapidly identifying and addressing top offenders at the cell level. A tool for detecting RSSI (Received Signal Strength Indicator) imbalance across ports, enhancing network performance insights.

**5G and C-Band Optimization:** Engaged in 5G optimization efforts, Bands:n77, n5, n261, including CBand and DSS (Dynamic Spectrum Sharing), using data analytics to refine network operations.

**True Call Analysis:** Conducted comprehensive True Call Analysis to provide insights into network performance and user experience.

**Project Tracking and Reporting:** Utilized tools like FUZE and OneVision to track project progress, analyze data, and report on project acceptance criteria.

Company Name: **First Point Group**

**Job Title: RF Optimization Consultant**

Paraguay: Personal Operator

Duration: 05/2020 – 08/2021

**Paraguay Project NPI (Network Performance Improvement):** Conducted extensive data analysis to detect traffic suppression and model PRB thresholds using the Jack model, facilitating data-driven decisions for network expansion criteria.

**Traffic Forecasting:** Analyzed traffic data to forecast high-value areas, supporting strategic decisions for network expansions and optimization.

**Capacity Planning:** Developed data-driven expansion solutions to address capacity issues, including carrier additions, 4T4R configurations, sector splits (4T6S), and site additions.

**Revenue Impact Analysis:** Performed traffic suppression analysis and calculated its impact on revenue, providing insights for strategic planning.

**KPI Trend Analysis:** Analyzed KPI trends to identify performance deviations, using data insights to propose optimization measures.

**Customer Engagement:** Created and delivered data-driven presentations to CXO level, explaining the technical and financial impacts of proposed solutions.

**Network Feature Testing:** Evaluated the performance of network features during cluster trials and analyzed the results for broader network implementation.

**Capacity and Network Insights:** Utilized Winscloud to gain insights into capacity trends and network performance, guiding data-driven decision-making.

**LTE Optimization:** Led LTE optimization efforts focusing on top offenders using ENO Solution, enhancing network performance through targeted data analysis.

Company Name: **First Point Group**

**Job Title: RF Consultant VoLTE for Ericsson**

Mexico City: America Movil Project

Duration: 09/2018 – 05/2020

**Optimization Based on RADAR Metrics:** Implemented optimization strategies based on detailed analysis of RADAR metric legs, including regional geographic data, to drive targeted improvements in network efficiency across different areas.

**VIP Monitoring:** Leveraged tools like Anritsu and Arieso for continuous monitoring and data analysis of VIP user experiences, ensuring high service quality.

**MOS and Call Setup Time Optimization:** Analyzed and optimized Mean Opinion Score (MOS) and call setup times through detailed data examination and performance tuning.

**Call Flow Analysis:** Performed in-depth call flow analysis, examining protocols such as S1AP, SIP, GTPV2, Diameter, and SGSP to identify issues and optimize network performance.

**Mobility Layer Optimization:** Proposed data-driven optimization measures for mobility layers, focusing on improving user experience through parameter adjustments.

**VIP Route Optimization:** Used Nemo Analyzer to optimize VIP routes, applying data insights to enhance network performance for critical users

**End-to-End Troubleshooting Support:** Provided data analysis and support for end-to-end troubleshooting, identifying and resolving complex network issues.

**Worst Cell Identification and RCA:** Identified the worst-performing cells through data analysis and conducted root cause analysis (RCA) to implement corrective measures.

**Layer Management Analysis:** Managed and optimized layer management in connected and idle modes by analyzing parameters such as cell reselection priorities, thresholds (ThdToHigh, ThdToLow), CSFallback, SRVCC, and Voice Priority.

**Trace Analysis:** Analyzed trace data using tools like Anritsu and Wireshark to diagnose and resolve network issues, enhancing overall performance.

**KPI Management:** Managed key LTE performance indicators (RSRQ, RSRP, SINR, CQI) through data analysis to maintain and improve network quality.

**Feature Implementation:** Implemented and optimized network features like IFLB and MBFI based on data insights

Company Name: **Telefonica Movistar** (Nokia and Ericsson)

**Job Title: RF Planning and Optimization Engineer**

Mexico City: Staff Senior Engineer

Duration: 05/2018 – 09/2018

**Drive Test Data Analysis:** Utilized Actix and NQDI for in-depth data analysis to drive network optimization efforts.

**KPI Trend and Deviation Analysis:** Conducted detailed data analysis to identify KPI trends and deviations, leading to targeted optimization efforts

**Inter-Vendor IUR Configuration:** Analyzed and optimized handover processes and external object definitions between Ericsson and Nokia networks, based on data insights.

**RF Optimization:** Leveraged data analysis to optimize RF performance, focusing on KPIs and user experience (IEC).

**Subway Network Optimization:** Applied data-driven optimization strategies for the Mexico City Subway, including indoor-outdoor handover and call continuity.

**Parameter and Neighbor Audits:** Conducted data-driven audits of network parameters and neighbors, ensuring consistency and optimal performance.

**Massive Event Monitoring:** Managed Radio Resource Management through real-time data analysis during massive events, resolving issues promptly.

**Throughput and CQI Optimization:** Analyzed and optimized throughput, CQI, RSP, and PA PB settings based on performance data.

Company Name: **Huawei Technologies** (Nokia – Huawei)

**Job Title: RF Optimization Engineer (GUL)**

Guadalajara, Mexico: America Movil Project

Duration: 09/2014 – 05/2018

**Swap Project Analysis:** Managed the swap projects between Nokia-Huawei and Ericsson-Huawei, analyzing data for CIQ creation, EPT updates, and dumps to ensure seamless transitions.

**LTE RF Optimization:** Conducted data-driven LTE RF optimization using radar and quality index metrics, focusing on clusters and vectors to achieve target delivery.

**Massive Events Data Analysis:** As part of the Huawei team for the Mexican Open Tennis event, performed real-time data analysis to ensure optimal network performance during the event.

**Carrier Aggregation (CA) Optimization:** Implemented and optimized Carrier Aggregation (CA) across four LTE bands (4, 7, 66) using data analysis to enhance network capacity and performance.

**MIMO and 4.5G Tuning:** Conducted initial tuning and data analysis for MIMO 4x4, 256 QAM, and MLB (Mobility Load Balancing) in the 4.5G network, optimizing network performance.

**UMTS Traffic Optimization:** Analyzed and balanced UMTS traffic across four bands, leveraging dual-carrier data insights to optimize network efficiency.

**Layer 3 Trace Analysis:** Executed and analyzed Layer 3 traces, addressing VIP complaints by detecting failures and proposing data-driven performance improvements.

**VoLTE Optimization:** Performed VoLTE optimization through SIP/RTP signaling and SRVCC to UMTS, conducting detailed data analysis (FMA, U2000, Anritsu) to enhance quality of service.

**Parameter Audits and Feature Implementation:** Led data-driven audits of network parameters, implementing features and optimizing timers to improve network performance.

**Real-Time Resource Management:** Managed Radio Resource Management for massive events, utilizing real-time data analysis to make necessary adjustments and optimizations.

**Drive Test Data Analysis:** Analyzed drive test data to implement changes aimed at improving KPIs and user perception, focusing on network strategies like LDR, DRD, cell selection/reselection, and handover optimization.

Company Name: **Airbus/Secure Land Communications**

Job Title: **RF Design Engineer**

Mexico City:

Duration: 09/2012 – 08/2014

**Customer Interface for Government Project:** Acted as the primary interface for a government project, leveraging data analysis to ensure optimal communication and coordination with stakeholders.

**Coverage and Frequency Planning:** Utilized Mentum Planet and Atoll to perform data-driven coverage predictions and frequency planning for encrypted communications (Tetra, Tetrapol, LTE).

**RF Shaping and Optimization:** Applied data analysis techniques to shape RF coverage, ensuring optimal performance in government communication networks.

**Microwave Link Design:** Analyzed data to design and implement microwave links (Alcatel, Harris, Eclipse), optimizing link performance based on data-driven insights.

**Installation Supervision and Supplier Coordination:** Supervised installations and infrastructure deployment, using data analysis to evaluate supplier performance and ensure quality outcomes.

**Product Testing and Implementation:** Tested and implemented new products, analyzing performance data to refine and optimize product deployment.

**Drive Test Analysis:** Conducted drive tests and post-processed the data using Nemo Outdoor and Nemo Analyzer, making data-driven adjustments to enhance network performance.

**Site Survey and SNR Analysis:** Performed site surveys and SNR (Signal-to-Noise Ratio) analysis, using the data to develop deployment proposals and optimize network planning.

**Interference Analysis:** Analyzed spectrum data to detect and mitigate external interferences, improving overall network reliability and performance.

**EDUCATION**

**Master’s Degree in Internet of Things (IoT)**  
Emphasis in Data Analysis  
Autonomous University of the State of Hidalgo (UAEH) – Institute of Basic Sciences and Engineering  
Graduated: 2023

**Bachelor’s Degree in Electronics and Telecommunications**  
Emphasis in Radiocommunication Systems  
Autonomous University of the State of Hidalgo (UAEH) – Institute of Basic Sciences and Engineering  
Graduated: 2012