Abhinav Tripathi

tripathi.abhinav03@gmail.com | 6699467533 | San Diego, CA 92122 | Linkedin

SUMMARY

Driven Cellular Systems Professional with 3+ years of hands-on experience in testing, scripting, analysis, and optimization. Ready to drive innovation in 5G and beyond. Actively seeking full-time opportunities from Jan 2024

EDUCATION

- **San Jose State University,** *San Jose, US* *Aug 2021 - Dec 2022*

Master's in Electrical Engineering| **GPA: 3.90**
Relevant Courses: Computer Architecture, Random Processes, Embedded Systems, Machine Learning

- **Pune University,** *Pune, India* *Aug 2015 - May 2019*

Bachelor's in Electronics and Telecommunication

TECHNICAL SKILLS

- **Wireless Technologies:** LTE, LTE-Advance (Air-Interface, Call-Processing), 5G, Beam Management and Mobility, HetNets, Link Budget, WiFi, 3GPP Rel 17(NTN), OFDM
- **Testing and Validation:** Test Plan Design, Test Automation Development, Root Cause Analysis, End-to-End System Performance Testing, Issue Reproduction , RF testing
- **Programming Languages:**Python(Proficient),C/C++, Bash/Shell scripting, Perl
- **Operating Systems:** Linux,Windows,Real-Time operating system
- **Hardware**: Vector Signal Analyzer & Generator,Spectrum Analyzer, Oscilloscopes, JTAG, UARTs

WORK EXPERIENCE

Cellular System Test Engineer, Qualcomm *Feb 2023 - Present*

- Specialized in PHY/MAC testing with a focus on Uplink & Throughput Analysis
- Developed Matlab script to generate polar plots to plot Rx parameters based on Leo satellite position
- Debugged software and tested internal PLL to resolve RACH procedure failure issue
- Coded post-script in C++/Python to convert raw samples to IQ constellation for EVM analysis
- Provided technical support, resolved OTA issues, and identified root causes on User Terminal, Ground Network sides as a key contributor in interoperability meetings
- Collaborated with cross-functional teams, working on RF issues and system performance optimization for different antenna vendors
- Designed and implemented test plan to evaluate modem handover performance, timelines, and TA handling for cellular systems
- Streamlined log processing and data visualization using internal Qualcomm libraries and tools (LAF/ QCAT Lib/Perl)
- Developed concise reports comparing antenna performance (SNR, Throughput, Rx/Tx Gain, CQI, RSSI, RSRP)
- Contributed to RF testing, specifically ADC testing, with a proposal for an enhanced algorithm in ADC codeword generation based on temperature
- Analyzed PDSCH BLER issue on HARQ ID and CRNTI caused by false PDCCH decoding and designed and executed test plan to evaluate cellular system impact and firmware fix

Signal Processing Engineer Intern, DSP Concept *Aug 2022 - Dec 2022*

- Designed and coded echo/interference cancellation algorithms in embedded systems using Kalman spatial filter
- Implemented and engineered spatial audio solutions for car and speaker systems

Modem Engineering Intern, Qualcomm *May 2022 - Aug 2022*

- Presented PDCCH BLER analysis and results to QC CTO
- Setting up test environment system for E2E Cellular(LTE/5G) Connectivity under different scenarios.
- Conducted directive study on LTE/5G architecture and physical layer(LLR, Golden Bits,CSI-RS,CQI)
- Analyzed OFDM imperfection as SCO, Phase Noise, CFO, and IQ Impairments

ACADEMIC PROJECTS

- Conducted directive study on future requirements and challenges for 6G network, specifically regarding channel coding
- Implemented TS 38.212 for 5G TB generation using LDPC code, integrating CRC attachment and rate matching to assess BLER performance for B.G2 with short block lengths