Hithesh Shekar

shekar.h@northeastern.edu | 8572696924 | LinkedIn | Boston, MA

EDUCATION

Northeastern University, Boston MA   December 2025
Master of Science, Electrical and Computer Engineering, Concentration in Communication, control and signal processing
Relevant Courses: Wireless communication Systems, Mobile and wireless networking, Stochastic process and Applied probability, Spectrum policy: Wireless communication

JSS Science and Technology University, Karnataka India   July 2017 - July 2021
Bachelor of Engineering, Electronics and Communications, **GPA 3.5**
Relevant Courses: Digital signal processing, Computer Networks, Digital communications, Information coding and theory, Analog communications, Embedded Systems, Data Structures

TECHNICAL SKILLS

Programming language: C, C++, MATLAB, Python, ASN.1, Shell, Socket programming, Arduino
Software: Wave judge, Wireshark, Source Insight, QXDM, TCP Traceroute, iPerf, Open YUMA, Docker, Kubernetes CI/CD, Bitbucket, Elastic search, Logstash, Kibana, JIRA, Confluence, O-RAN Studio, Signal analyzer, Oscilloscope
Communication Protocols: 5G stack (RRC 38.331, MAC, Netconf), UDP/TCP, CDMA, OFDM
Processors: LA1234, LA1224(Baseband), LS1046, LS2160(Application), Arduino, Raspberry Pi
Standards: 3GPP (RRC, Physical layer and MAC LIMITED: PDCP, RLC and SDAP), IEEE, TSDSI, O-RAN

PROFESSIONAL EXPERIENCE

Northeastern University, Boston USA   January 2024 - Present
Research Assistant

- Integrated O-RUs with OpenAir Interface (OAI) DU and NVIDIA ARC (L1) for enhanced interoperability, optimizing 5G network performance and efficiency.
- Performed end-to-end throughput testing for the base station, achieving up to 1.1 Gbps UDP/TCP with RU and core simulators from Keysight, aligning with IoT-profile 1 specifications (without beamforming).
- Analyzed logs and debugged PHY/MAC layer and upper-layer RRC configuration issues during base station integration using Wave Judge and Wireshark for packet level understanding for SA mode RUs in fronthaul as well
- Validated IoT Conformance WG4 IoT Profile 1 for automation of O-RUs operating in the n78 band, ensuring compliance with industry standards and optimizing operational efficiency

HFCL limited, Bangalore India   August 2021 - December 2023
Senior Engineer 1

- Deployed Open 5GS core and integrated Small Cell gNodeB for the end-to-end testing setup of throughput for the 5G small cell, analyzed Wireshark logs for the UE attach as a scrum master and was honored with ACE Team Alliance
- Analyzed and tested pre-coding matrix for the 2T2R using code warrior to gain maximum throughput of 560Mbps for 100MHz channel bandwidth without DPD and CFR enabled according to 3gpp standards, awarded Pinnacle Performer
- Documented the technical analysis for the development of non-standalone mode for the development of the NSA for the small cell product aligned with 3GPP standard
- Designed and developed the collapse of F1AP protocol (release 16, 3gpp) for all-in-one small cell (2T2R) and outdoor small cell(4T4R) using c++
- Developed backend of Element management system (EMS) for the small cell using Netconf for configuration management and integrated ELK for the Log analysis, also CNN for the fault management

Larsen and Toubro, Mysore India   June 2019 - September 2019
Hardware intern

- Designed and developed PCB Layout using Arduino for the quality assurance of the LEDs, capacitors and resistors which helped the team in redundancy of human error for the measurement with instant reports
- Automated the entire test process for the quality assurance of electronics component with web application which reduced the 75% of the manual work and enhanced work productivity