

UPENDRA GUPTA

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About

Innovative Computer Science Engineer with 2.5+ years of experience in 5G RAN integration, C development, and automation. Proven expertise in 5G NR, O-RAN, and Linux-based systems with a strong background in deploying and optimizing gNB configurations, enhancing network performance, and reducing operational errors through automation. Skilled in C programming, scripting, and DevOps practices, dedicated to driving efficiency and system stability in telecommunications.

TECHNICAL Skills

Programming Languages: C, C++, Bash

5G RAN Technologies: 5G NR, O-RAN, gNB, RU/DU/CU, Layer 1/2 Protocols (MAC, RLC, PDCP).

Tools & Platforms: Linux, GIT, Wireshark, Log analysis, Jenkins, Ansible, Docker, Vim.

Networking: 3GPP standards, SCTP, Interfaces (N2, N3), IPsec, Fronthaul/Midhaul Integration.

Automation & DevOps: CI/CD pipelines, Logging, Monitoring, System Core Optimization.

Education

Bachelor of Engineering (B.E.) in Computer Science

AMCEC (*Affiliated to VTU*), Bangalore

2018 – 2022 | CGPA: 7.82/10

Work Experience

Capgemini Engineering (formerly *Altran*), Gurugram

Associate II | AUG 2022 – Present

5G RAN Integration & Deployment:

- Led end-to-end deployments of 5G RAN networks, including configuration of RU, DU, and CU, improving handover success rates by 20%.
- Configured fronthaul and backhaul connections in accordance with 3GPP standards for 5G NR systems.

C Development & Automation:

- Designed and implemented a C-based Core Binding GUI Tool, reducing core-thread mapping setup time by 35%.
- Developed an End-to-End Log Debugging Tool that streamlined log analysis and reduced issue resolution time by 50%.

- Created a 0-touch server bring-up automation script, cutting setup time by 40%.

Testing & Client Management:

- Conducted testing for CBRS, O1 interface, and handover functionalities at customer sites, ensuring system readiness.
 - Served as the primary technical contact for US-based clients, enhancing customer satisfaction through effective issue resolution.
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Project Work

Core Binding tool

- Developed a C-based GUI tool to automate core binding in 5G NR systems with customizable core-thread mapping, improving deployment efficiency by 30%.

Server Bring up tool

- Engineered a 0-touch automation script for server initialization, significantly reducing manual intervention and setup time.

5G RAN Optimization Tool

- Created a C-based tool to optimize gNB configurations, leading to a 15% improvement in network performance.
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Certificates

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| • 5G-architecture-design-protocols-evolution-deployment | Certificate |
| • 5G for Everyone | Certificate |
| • C for Everyone | Certificate |
| • Linux Fundamental | Certificate |
| • Continuous Integration/Delivery | Certificate |
| • Jenkins | Certificate |
| • Ansible & Ansible-Playbooks for Automation | Certificate |
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Achievements

- **Employee of the year (Dec 2023):** Recognized for outstanding contributions to 5G integration and automation at Capgemini Engineering.
- **Google Quick Labs Achievement (May 2021):** Commended for proficiency in CI/CD and DevOps through successful completion of lab projects.