

Preetham Karanth Kota

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PROFESSIONAL EXPERIENCE:

Samsung Semiconductor, Inc., San Diego, CA, USA

May 2023 - Aug 2023

Software Engineering Intern

- Contributed to **Layer-3/Layer-2** Protocol stack Research and Development on **Samsung Exynos Cellular Processor**.
- Led design, development, and testing of UE capability Information message segmentation (Rel 16) for 4G & 5G.
- Developed and implemented of priority-based Cell reselection algorithms for 4G & 5G during the idle state.

Rakuten Symphony (Formerly Altiostar Networks, Pvt Ltd.), Bangalore, Karnataka, India

Aug 2019 - Aug 2022

Software Developer

- Developed **distributed memory-intensive** solutions to handle vast data across RAN to support 4G/5G/CATM1/IOT.
- Devised and executed all Radio resource control functionalities (RRC) for CAT-M1 technology from ground up.
- Framed an algorithm to select and switch Data Centre (MME) for 4G and IOT mobile devices in the network.
- Employed **Jenkins** to manage **CI/CD** pipeline, building project images and integrating test cases for 4G/CAT-M1 project.
- Fortified 4G users by implementing a solution to counter **REVOLTE cybersecurity attacks** across the network.
- Integrated **RMQ** for asynchronous communication across services, ensuring fault tolerance across the system.
- Built **APIs** for sub-module communication and integrated **SQLite DB** for efficient IoT user data **backend** storage.
- Utilized **Python** big data processing with **Spark** to parse logs, identifying RAN network issues in real-time.

Rakuten Symphony (Formerly Altiostar Networks, Pvt Ltd.), Bangalore, Karnataka, India

Feb 2019 - Jul 2019

Software Development Intern

- Built 60+ case-strong Unit Test Framework using **CppUnit**, validating 92% of code, bolstering system reliability.
- Programmed web app using **Java Spring boot, React and MongoDB** to automate and test 4G/5G system functionality.
- Implemented **Kafka-driven** logging entity in C++, enhancing RAN data collection accuracy by 50% for troubleshooting.

Techie Aid, Pvt Ltd., Bengaluru, Karnataka, India

Apr 2018 - Jul 2018

Intern

- Designed an Android app using **Java** to remotely retrieve messages from a device, compatible with Android versions 3+.

TECHNICAL SKILLS:

Programming: C, C++, Python, Java, SQL, HTML/CSS, JavaScript, CI/CD, NodeJs, ReactJs, VueJs, Embedded dev.

Tools/Software: ShannonDM, QxDM, Wireshark, Gdb, Vim, Perforce, Git, Jenkins, GCP, AWS, Valgrind, SQLite, MySQL, MongoDB, Kafka, Hadoop, RMQ, DPDK.

Course work: Algorithms, Databases, Data Structures, OOPS, Machine Learning, AI, Web Tech, Data Analytics, Big Data.

EDUCATION:

The University of Texas at Arlington, Texas, USA

Aug 2022 - May 2024

Master of Science in Computer Science

RNS Institute of Technology (Visvesvaraya Technological University), Bangalore, India

Aug 2015 - Jun 2019

Bachelor of Engineering in Computer Science and Engineering

ACADEMIC PROJECTS:

Depression Predictor: *MongoDB | Express.js | React.js | Node.js*

- Engineered an innovative Full stack software to aid psychiatrists in predicting the level of depression in patients with an accuracy rate of 65%, employing neural networks, an android chatbot, MERN Stack and Google cloud.

E-Learning Portal: *MySQL | PHP | HTML | CSS | JQuery | Javascript*

- Developed fullstack software for the CSE department at RNSIT, enabling students to access study materials uploaded by professors for over 50 courses.

PUBLICATIONS:

Face responsive Interface: Published and presented a research paper on "Face responsive Interface" at 31st annual Computer Society of India (CSI) Convention.

ACHIEVEMENTS:

- Honoured with the "Certificate of Achievement" at Rakuten Symphony for exceptional performance.
- Secured 2nd place in the college project competition held in collaboration with CSI.
- Supervised a 13-member team, mentoring junior developers to swiftly excel at Rakuten Symphony.