RESUME

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Objective

Looking for a position to utilize my skills, knowledge and ability with overall 10 years of work experience in the best possible way for the professional growth in all aspects while being innovative, resourceful and flexible.

Skills Set Summary

Domain	LTE, 5G, Wireless Networking and Embedded systems
Languages	C, C++, Python, XML
Platform	Linux, Windows
Skills	Telecommunications - LTE,EPC Packet Core, 5G, WLAN (Short Range Wireless Networking) – Linux internals, Android, Knowledge on various UNIX commands and system calls.
Protocols	TCP/IP, 802.11 bgn/ac, 5G Protocols
Tools	Vim, Perforce, Code Collaborator, GDB, Omnipeek, Wireshark, GIT repository, GERRIT, Jenkins
Roles	Requirement Analysis, Design, Development, Maintenance, Unit Testing

Employment History

Employer Name	Designation	Duration
Commscope Networks, Bangalore	Staff Engineer	18th May 2022 to Sept 30th 2024
Wipro Limited, Bangalore	Senior Project Engineer	14th Jun 2018 - May 2022
Sasken Communications Technology	Senior Software Engineer	26th Oct 2015 - 20th Mar 2017
Global Edge Software Ltd,Bangalore	Software Engineer	4th Jul 2012 – 8th Oct 2015

Education Details

College/University	Degree	Specialization	Duration	Marks(%)
K.L.E Institute of Technology, Hubli / VTU	BE	Computer Science	June 2008 - May 2012	72.32
Karnataka College, Dharwad/ PUC Board, Karnataka	PUC	Science	June 2006 - April 2008	84.66
Presentation Girls Convent, Dharwad / Secondary Education Board, Karnataka	SSLC	-	2006	95.52

Project Details

1. **OneCell**:

Onecell is a small cell solution that delivers clear, reliable signals and high speed data throughout buildings and premises. Future-ready-modular software-based architecture simplifies migration to 5G. This high quality coverage can be extended to adjacent outdoor spaces such as courtyards and parking lots.

Languages : C
OS : Linux
Tools : Git, Wireshark, Gerrit, Jenkins

Responsibilities:

- Understanding Cell setup, Cell bring up, SA/NSA attach/detach call flows.
- Understanding and Hands-on experience on RRC, RRM and Dumgr functionalities.
- Detailed Log analysis and bug fixing on reported issues.
- Bring up and release 5G SA/NSA calls using simulator.
- Unit testing various scenarios of the features.
- End-to-end validations on phybypass and ota setups using simulators.

2. Mobility Packet Core network:

This project is on packet core solution on SAEGW on ASR5500 router. SAEGW is a combination of Serving Gateway(SGW) and Packet Core Network (PDN) gateway that operates as a service on ASR5500 chassis. This includes the major innovation such as Control User Plane Separation (CUPS) concept.

Languages : C
OS : Linux
Tools : Git, Jenkins, Wireshark, GDB, Pacer,CISCO Simulator

Responsibilties:

- Developing new features on SAEGW.
- Working on User-plane module and its associated issues.
- Debugging customer reported issues and release blocker issues.
- Solving crash issues with gdb debugging.
- Bringing up 4G call on the simulator setup with traffic.

3. Wi-Fi Mobility Gateway (WMG)

The WMG is a high performance, versatile product that combines trusted and untrusted Wi-Fi access to the Evolved Packet Core (EPC) Network. It is functioned by ePDG and TWAG:

- The evolved Packet Data Gateway is used for untrusted Wi-Fi access to the EPC Network.
- The Trusted Wi-Fi Access Gateway (TWAG) is used for trusted.

Languages : C
OS : Linux
Tools : Git, Gerrit, Wireshark, Jenkins.

Responsibilities:

- Key contributor in the delivery of SWM Failure Handling feature.
- Worked on its CLI implementation.
- Worked on the resolution of the client TRs and bug fixing on timely basis.

- Worked on WMG release build activities.
- Worked on 5G interworking feature.

4. Upgrade Android Kitkat to Lollipop

The project involves Upgrading Android KK version to L version for Rugged devices. This is based on Qualcomm Chipset keeping KK Riva firmware, L driver and L wpa supplicant. Included the adaptations from KK to L version. Analysing the wlan component issues through logs and fixing those issues.

Languages : C, Java
OS : Linux
Tools : GIT, GERRIT, Omnipeek sniffer tool.

Responsibilities:

- Analysing the requirement for Lollipop version.
- Understanding the changes required for Lollipop version.
- Adapting the changes from KK to L on wlan component in all the android layers by creating the patches for git commits and applying them in L Codebase.
- Worked on Mac Layer of OSI Model. Worked on issues related to wi-Fi Roaming, DHCP.
- Analysing the issues on wlan component and Bug fixing.
- Unit Testing the wlan functionality for various cases and merging the patches onto the mainline code using GERRIT

5. Automation (WLAN) (July 2014 – October 2015)

The Automation Project is mainly focused on developing APIs to support testing of various features like WLAN, BT and NFC.

WLAN is my core expertise. It involves development of APIs in various modules such as Access Point, Station, and Sniffer Parsing APIs in C# Language as the back end.

In the front end, it uses a GUI that allows a customer/manual tester to drag and drop APIs to create test cases for the feature they need to test.

Languages : C# .Net
OS : Windows 7
Tools : MS Visual Studio, Perforce, Code Collaborator

Responsibilities:

- Automating access points using a thirdparty tool viz. Selenium. It involved analysing different web base operations for different access points from vendors like Linksys, Dlink, Netgear, TPLink and WAPI to name a few. Based on this analysis, APIs were designed and implemented in order to configure the APs in profiles according to the test case needs.
- Requirement analysis, hands-on to understand different WLAN features in order to design and implement core APIs that are OS agnostic, reusable and easy to maintain.
- Implementing, testing the core APIs across different targets and on different flavours of Android.
- Creating and testing of end-to-end test cases in WLAN. Created/Validated the TCs using the front end/ GUI by drag and drop of the APIs for the individual feature and generating the report and logs.
- Adherence to software development process (code review, code integration and testing) followed to produce quality deliverables and bug-free, easy-to-maintain code.

6. Bringing up TI's dm6446 Board

The project involves the porting of sd8787 driver on Texas Instruments' DM6446 board. DM6446 is Image and Video processing platform board designed by Texas Instruments. The DM6446 enables OEMs and ODMs to quickly bring to market devices featuring robust operating systems support, rich user interfaces, and high processing performance. Installed the BSP (Board Support Package) for TI's dm6446 board. When the BSP files are uncompressed a directory by name montavista is created in the specified path. It contains the root file system for the TIDM6446 board in the path. Then the root file system is mounted on the board through NFS. Shared file system is exported to the target. The kernel uImage is downloaded to the board through the tftp. The toolchain is arm_v5t_le-. Booting of the Linux kernel version 2.6 is done on the board using the bootargs.

Languages : C
OS : Linux
Tools : GDB

Responsibilities:

- Understanding the TI dm6446 board architecture
- Downloading and installing the board support package using repo
- Compiling of Linux kernel using arm tool chain
- Booting up the Kernel using the bootargs.

7. Bringing up the Beagle Board

The project involves the porting of sd8787 mfgtool driver on Beagle board over kernel v3.4.47. Beagle board is the open source, low cost, single computer designed by Texas. Created new rootfs using busybox with arm-2010 toolchain for arm architecture. Created ramdisk image on the host machine. The rfs and the uImage is written to the sd card. Then the root file system and uImage is mounted on the board through sd card. Booting of the Linux kernel version 3.4.47 is done on the board over ramdisk image using the bootargs.

Languages : C
OS : Linux
Tools : GDB, GNU tool chain

Responsibilities:

- Understanding the TI Beagle board architecture
- Downloading of Linux kernel using repo and git tools
- Compiling of Linux kernel using arm tool chain
- Flashing the kernel boot up files via SD card boot
- Bringing up of kernel and testing of the devices enabled

Personal Information

Name : Deepa Arunkumar Naragund
Date of Birth : 12/06/1990
Nationality : Indian
Marital Status : Married
Languages : English, Kannada, and Hindi