**Aleem Ulla Shariff**

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**Objective**

As a highly experienced Embedded and System Programmer with over 15 years of experience, my objective is to leverage my expertise and technical skills to contribute to the success of a dynamic organization in the field of Embedded systems and software development. I am seeking a challenging role that will allow me to utilize my strong analytical, problem-solving, and communication skills to design and develop innovative solutions.

Professional Work Summary

* 15+ Years of professional Experience in analysis, Debugging, development & implementation phases of Embedded Software development
* Expert in developing & debugging Linux Kernel Device Driver, Boot loader and Low level platform driver development (Linux BSP).
* Well experienced in **Linux device driver** development and porting (Boot loaders, Flash Drivers, WiFi Drivers, DLNA/UPNP, Camera Sensor's, WPA Supplicant, Gstreamer, Linux ALSA ASOC).
* Bus protocol: **I2C, SPI, I2S, UART, Touch and Light Sensor**, LCD and Various SOC subsystems(ASOC).
* Hands-on Experience with various Architecture (ARM, x86, MIPS and PPC) on various platform like UBUNTU, FEDORA-CORE, ANDROID, MEEGO-IVI, TIZEN and other Linux Derivations.
* Worked in various Wireless technologies Wi-Fi, 4G, 5G, LTE (HAL and Driver integration)
* Expert in Handling CRO, debugging embedded software using (Lauterbach Trace32 JTAG) for an ARM Core's.

Profiling tools like ARM Development Studio 5 (DS-5). (Debugging, performance analyzer and Profiling tool).

* Deputed for Leading Silicon vendors like LG, Samsung, Renesas, Broadcom and Intel for their platform development.
* Worked with various flavors of Android ( GB, ICS on Various Platform's like INTEL, TI, Qcom and Renesas).
* Hands-on Experience on Firmware development/Integration on Linux Kernel and its HAL Integration for various sub-system (Audio/Video/Wireless)
* Hands-on Experience on UBOOT, Redboot and GRUB like boot-loader porting, from scratch Busy-box file-system development and boot-time optimization.
* Understanding of Linux Kernel internals, Linux device drivers, BSP & Boot loaders. debugging techniques in Linux.

Educational Qualification

**2003-March:** VTU University -Belgaum Karnataka, India First class in **Bachelors of Engineering in Telecommunications (70%)**

**2005-June:** **Advanced training in “Linux Device Drivers and RTOS” @At “Cranes Software International”.**

Skill Set

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| --- | --- |
| **Technologies** | Linux BSP, Boot loader, Kernel Device Driver and Middle-ware development |
| **Scripting language** | Strong proficiency in Shell Scripting and Python. |
| **SCM Tools** | GIT, Clear-case |
| **Profiling Tools** | LTP (Linux Kernel), perf, Valgrind, OProfile , Android CTS. |
| **Programming Languages** | C, C++, Assembly. |

On-Site Experience

1. **Intek** **Digital** : Seoul South Korea – ( May -2010 to Oct 2010 )
2. **Skylink** : Saint Petersburg, Moscow ( May -2010 to Oct 2010 )
3. **Clarion** : Tokyo - Japan – ( July -2007 to March-2008 )

**Projects**

1. Capgemini : QUALCOMM –IotG. (Aug-2023- May-2025)

**Client : Qcom Client** [**http://www.qualcomm.com/**](http://www.qualcomm.com/) **– Bangalore India.**

**Language and Script : C, Python, T32, J-link Debugger.**

**Platform : IotG  Qualcomm’s Qcx216 ,Qcx217 Dual-core Arm® Cortex®-M3.**

**Role : Lead Engineer**

**Responsibilities : System Debugging, Code development.**

* Resolved high-priority, customer-critical issues, ensuring minimal downtime.
* Led debugging, performance optimization, & feature development on Qcx216 & Qcx217 chipsets.
* Collaborated cross-functionally with firmware, hardware, and QA teams to deliver timely fixes and system enhancements.
* Coding and testing the H/w Devices according to the requirements,
* Post release support to the Customer
* Created detailed technical documentation and knowledge base articles.

1. Intel Intel IOTG EHL and AZB. ( May-2020- May-2022)

**Client : IMC Client** [**http://www.intel.com/**](http://www.intel.com/) **– Bangalore India.**

**Language and Script : C, Python, T32, CCA Debugger.**

**Platform : IotG EHL 4C4T Tremont , Intel C1110, SOFIA LTE/3G , MWR, XMM7272.**

**Role : Lead Engineer**

**Responsibilities : System Debugging, Code development.**

* Part of Power on camp for initial Board Bring Up for ( EHL & AZB Platforms )
* Board bring up - Boot up Yocto on EHL-H/w 4C4T Tremont.
* EHL setups done in for Local Testing/Issue reproduction.
* Yocto Build Set-up and configuration for EHL. NVME and UFS Boot on AZB Platform.
* Debug Issue related to IFWI, Bios and Yocto.
* Stress and stability, Responsiveness/KPI, Customer issues and FT (Field test)
* Yocto Package Optimization, GIO Client Installation.

1. IMC Mobile Platform ( XMM6321, SOFIA LTE/3G , MWR, XMM7272 ). (Oct-2014– June-2020)

**Client : IMC Client** [**http://www.intel.com/**](http://www.intel.com/) **– Bangalore India.**

**Language and Script : C, Assembly, Python, T32, MIPI traces**

**Platform : XMM6321, SOFIA LTE/3G , MWR, XMM7272.**

**Role : Lead Engineer**

**Responsibilities : System Debugging, Code development.**

* Leading a team of 4 engineers in the design, development, & maintenance of embedded software components.
* Collaborating closely with System Integration Testing (SIT) and Verification teams to identify, analyze, and resolve mainline regression issues.
* Working in tandem with the Power Driver team to debug and resolve power management and optimization issues across Android platforms.
* Responsible for setup, execution, and analysis of Android Compatibility Test Suite (CTS) and Google Mobile Services Test Suite (GTS) to ensure compliance and certification readiness.
* Driving root cause analysis and resolution of critical customer-reported issues, ensuring timely delivery of robust and scalable solutions.

1. Wearable AP -BSP  Smartplay Technologies PVT LTD. (Feb-2014–Sep-2014)

**Client : Samsung ( SRIB) – Bangalore India. For ( Samsung Gear 2 and Samsung Gear Fit )**

**Language and Script : C**

**Platform : Samsung- Exynos s3c24xx platform.**

**Role : Lead Engineer**

**Responsibilities : Code development, Asoc Alsa Playback/Capture.**

* Audio Playback, Capture on Yamaha codec Ymu831 with ALSA Utils. Fixing Audio Noise issue.
* Study and understanding of I2S, PCM and Codec Driver.
* Kernel migration 3.4 to 3.10 with DT Changes.
* Validation of IP’s ( I2C, SPI, I2S, PCM ) on FPGA Board.
* Development and Integration of Asoc ( Codec, Platform and Machine Drive's).

1. **A**ndroid Porting Smartplay Technologies PVT LTD. (Jan -2013–Feb-2014)

**Client : Renesas mobile / Broadcom – Bangalore India.**

**Language and Script : C**

**Platform : Renesas- MP65x0 platform.**

**Role : Lead Engineer**

**Responsibilities : Code development, Triaging, FAT and Bug Fixing.**

* Leading a team of 8 members on Android Triaging and First analysis Team.
* Android 4.2 board bring up with SH MP 5323.
* Kernel stabilization with respect to sensors.
* Fixing Performance and Benchmarking issues, Fixing Show Stopper and Critical issues.
* Working of Release Blocker issues and Performance Issues.
* Broadcom DS5-Training. (Profiling tool).

1. Android Porting from GB to ICS Smartplay Technologies PVT LTD. ( 01-Oct -2011– 01-Dec-2012)

**Client : Samsung Electronics India (SISO) for ( Samsung Galaxy Ace, S-II, Samsung Galaxy Note )**

**Language and Script : C, Shell Script.**

**Platform : QCOM MSM 76xx, MSM 8655, Exynos 4**

**Role : Lead engineer (Individual Contributor)**

**Responsibilities : Code development, OS upgrade and porting Drivers and Bug fixing.**

* Android 2.3 board bring up with QCOM MSM7627, MSM 8655
* Board bring up and Driver porting (Touch, keypad input. Switch USB. FSA 9480 )
* USB EHCI /OTG and Gadget driver porting
* Battery and power module PMIC8xxx Series.
* Broadcom 4330 Wireless and Bluetooth Driver porting.
* Kernel stabilization with respect to sensors. Resolved SD card mounting issue.
* QWERTY Keypad smiley key's and smiley symbol, icon issue fix.
* Bugs fix including Camera sensor and Camera Flash issue.
* Sensor issue like Screen Flip and Orientation fix. Battery health and battery charging issue fix.
* Fixed issue related to USB gadget device.
* (USB DIAG,USB RNDIS,USB,TEETHRING & firmware up gradation )

1. Android Porting from Froyo to GB. Smartplay Technologies PVT LTD. (April -2011 – SEP-2011 )

**Client : LG Soft India Bangalore for ( LG mobile devices LG Optimus S/M/T )**

**Language and Script : C, C++, Python**

**Platform : Android Gingerbread 2.3.3 MSM7627.**

**Role : Sr. Software Engineer (Individual Contributor)**

**Responsibilities : Code development, OS upgrade and porting Drivers.**

* Android 2.2/2.3 board bring on Qualcom MSM 7627.
* Board bring up and driver porting. Porting KGSL (3D-Graphics Driver).
* FOTA (Firmware upgrade over the air).

1. Android Codec integration & Testing. SPA Computers PVT LTD. (Nov -2010 – Feb-2011).

**Client : ITTIAM ( http://www.ittiam.com/ ) Bangalore**

**Language and Script : C, C++, Shell Scripting.**

**Platform : TI Omap3/4 Platform.**

**Role : Sr. Software Engineer (Individual Contributor)**

**Responsibilities : Code development Deliver deliverables to internal customer**

* Android 2.2/2.3 board bring up with TI Omap3/4 Platform.
* Integrated and tested codecs/components into these frameworks.
* Frameworks Gstreamer/OpenMax IL. Integration and testing of audio codec.
* Testing audio codec with integrated MM Framework. Codec like WAV/WMA, WMA –PRO, MP1/2/3.
* Code migration from Microsoft VC++ to Eclipse.

1. Set Top Box ( Vintage ) Intek Digital ( S.Korea System Development

**Client : Intek Digital http://www.intekdigital.com/– Seoul S.Korea**

**Language and Script : C, C++**

**Platform : STMicroelectronics STx7105 Mboard.**

**Role : Senior Software Engineer (Platform and Drivers)**

**Responsibilities : Code development Deliver deliverables to Clinet.**

* DLNA Media Server, Media client and Media control protocols, UPnP/AV
* Providing API routines for wireless security WEP, WPA-PSK, WPA-TKIP, WPA2 AES.
* DHCP, QoS and other IP protocol, TCP/IP stack.

1. Wi-Fi AP Dongle -MCK ( S.Korea ) SPA Computers PVT LTD. ( Nov -2009 – Jan-2010 )

**Client : Dong Yang – Seoul South Korea**

**Language and Script : C, C++, Bash.**

**Platform : RT3052 MIPS Core USB JTAG Emulator.**

**Role : Senior Software Engineer (Platform and Drivers)**

**Responsibilities : Code development Deliver deliverables to internal customer**

* Board bring up ( Boot loader, kernel & files system for Ralink RT3052 MIPS Core custom board).
* Porting Device Driver’s ( Nand Flash 256MB, USB, CDC ACM driver).
* Ralink Wireless Driver, GPIO driver and application, USB switch.
* Configuring Wireless Drivers for Ralink, WLAN iEEE802.11b,g 11Mbps-54Mbps, Security WPA-PSK.
* PPP connection and scripts, Management Interface (Web Browser).
* RT3052 Firmware upgrade and backup from web browser. System failure and recovery.

1. Wireless Handheld & KTV SPA Computers PVT LTD. ( April-2008 to May-2009 )

**Client : Dong Yang – Seoul S.Korea**

**Language and Script : C, Shell Scripting.**

**Platform : Freescale IMX27**

**Role : Senior Software Engineer (Platform and Drivers)**

**Responsibilities : Code development Deliver deliverables to client Dong Yang Media.**

* Basic Board bring up (MPC 8323 and Free scale IMX27 (ARM-9 core).
* Porting of Wireless Drivers for Relink RT61, 2860 and Atheros AR5212 (802.11abg./n) on to MPC8323.
* V4l and V4L2 API and Application for CMOS camera Interface.

1. **Bus Terminal Display System SPA Computers PVT LTD**. ( July -2007 to March-2008 )

**Client : Clarion ( http://www.clarion.com/ ) Japan**

**Language and Script : C, Shell Scripting.**

**Role : Senior Software Engineer (Platform and Drivers)**

**Responsibilities : Code development Deliver deliverables to internal customer**

* **ADSP-BF561 Blackfin® Processors** Modifying Nor Flash Driver and Porting (JFFS2)
* File System and Profiling Kernel module for ADSP-BF561.
* GPIO Driver and Application for programmable flags.
* CF driver and Firmware upgrade with auto Boot.
* Serial interface communication Application. Play list design and application.

1. Development of (C5- IP DSLAM ) Wipro Technologies. ( Jan-2006 to July-2006 )

**Client : Calix – (http://www.calix.com/ ) USA**

**Language and Script : C, C++**

**Tools : BDI Abatron BDI 2000 & logic analyzer, KGDB.**

**Role : Software Engineer**

**Responsibilities : Code development Deliver deliverables to customer**

* Porting NAND, CFI Flash & raw JFFS2 to U-boot/Winmon loader.
* Porting CFI NOR Flash and NAND Flash driver and Providing Partition for non-up gradable &
* Modifying U-boot/Linux to support large page NAND Flash.
* Providing raw JFFS2 support on NAND Flash on Boot loaders.
* Testing XDSL traffic performance ( GIGE traffic ) with SPIRENT 2000 On XDSL.
* IP-DSLAM Board ADSL and VDSL (Traffic Testing) and Performance).
* Writing test application for 6 PIM module with ( ADC and EPROM’s) interface.