**NAME:** BASAVA PRABHU Ph no. 7795158856

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**Career Mission**

* Having good knowledge as well as good experience on embedded system, Kernel, Device Drivers, and I want to grow in field of Linux kernel and Device Drivers.



**Summary**

* Currently working in **Sasken Technologies Ltd. (D.O.J -18 March 2019)** in field of Telematic chipset’s end to end system design & develop, test, and deliver software modules/features.
* Areas currently working on: **System boot sequences use-cases**, **Bootloader (Little Kernel)**, **Kernel, Linux Device Driver Developer, open-source** and **Automation** needed to maintain system software in **Yocto/Embedded Linux** environment.
* Having 6 months experience in **Vector India** as an Embedded Software Programmer.
* Good understanding and hands-on experience in **porting, fine-tuning** Linux into different platform and **Board bring up**.
* Hands on experience on **Qualcomm based devices like Telematic (Auto) and Automotive devices.**
* Hands on experience on source code analysis techniques
* Strong knowledge and debugging skills on **Bootloader (Little Kernel).**
* **Investigate, debug** (root cause) and resolve complex issues reported on system software.
* **Hands-on-debug** and interact with customer as a part of commercialization process.

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| **Skills** | Deep knowledge of C, Embedded C, C++, Data structure & Algorithms, git, microcontroller 8051, Linux System Programming, Linux utilities , Linux Operating System Internals , Linux Device driver .  Communication protocol: UART, I2C, SPI. |
| **Device Driver** | System level programming, kernel level programming, char, device driver, |

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|  | procfs, sysfs , ioctl, waitqueues , interrupts, tasklets, workqueue, synchronization techniques- atomic operation, mutex  , spinlock, memory management, Linux debugging . |

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| **Tools** | Git, GDB, adb, fastboot, kdump, crashscope, minicom,  cscope, Klocwork, FOSSID and several other tools. |



**Professional Project**

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| **Project** | **Emergency Shutdown** |
| **Description** | Prevent memory corruption on abrupt power off by shutting down the system with reduced power off time. System to power off in less than 2 sec before the backup power goes off. |
| **Role** | * Writing a driver from scratch which registers for interrupt triggers on abrupt power off execute scripts to do –   1. Send signal to modem stop,   2. Kill all daemons to stop access memory,   3. Sync and unmount the file system, iv- Shutdown the system. * Writing Device tree (DTS) node and update with GPIO pin number to detect Interrupt. |
| **Project** | **Linux Upgrade on Qualcomm msm8996 device** |
| **Description** | As a part of Android build, needed to upgrade  Linux from 4.4 to 4.14 and board bring-up with Linux 4.14. |
| **Role** | * Understanding whole boot-up sequence and bring up board in same fashion. * Porting of drivers and making dtschanges. * Debugging kernel issues and working in CLI. * Kernel Customization build. * Compilation, managing Android full build and working on Android layers. * Working in Qualcomm Kdev environment. * Booting with various RootFS like Initramfs, Ramdisk. * Flashing images and sanity test. |

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| **Project** | **Telematics** |
| **Description** | Platform Team - Taking ownership from end to end and maintain and improve existing software as per requirement |
| **Role** | Hands on with:   * Boot-up use cases * Bootloader- Little kernel * Investigate and debug root cause of issues reported in APPSBL, Kernel and supporting libraries in yocto environment. * Yocto/Embedded linux * Static Analysis Klocwork run and fix issues. * FOSSID report generation and CVE Analysis &   fix’s   * Automating the required process. * Communication with different teams and passing on respective component issues to teams. * Merging and propagation of gerrits to   respective branch and respective SI’s.   * Testing patches on local build against static analysis and sanity test. |

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| **Project** | **Y2038 Problem on msm-5.4** |
| **Description** | On 19th Jan 2038 is the Y2038 problem where the timestamp can no longer fit with signed 32-bit integer. On User space application for avoiding y2038 problem glibc and kernel should have support of Y2038 feature. |
| **Role** | * Design, develop and unit test whole feature. * Run cppcheck scan on all user-space source and kernel source. * Identify the portion of source that is making use to time. * Develop a template needed to fix the buggy code against y2038. * For user-space upgrade glibc which provide support to y2038 and analyze other packages and fix them. * Write down the test scripts for testing and perform all types of sanity testing. |

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| **Project Name** | **Description** |
| **Designing GPIO driver for Raspberry pi Board** | Developing GPIO driver with basic functions and doing **IOCTL**. |
| **Linux Porting on SDM845** | Porting and fine-tuning Linux as required and board bring-up with that image. |
| **Designing C preprocessor** | Design and development of C preprocessor trying to understand the compiler functions  and difficulty level of design of those functions. |



**Learning Projects**



**Education Qualification**

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| **Course** | **Institution** | **Board/University** | **Percentage** | **Year of**  **Complet ion** |
| **Embedded System Design** | Vector India | Vector India | - | 2019 |
| **Bachelor of Engineering** | S.G.Balekundri  Institute of Technology | VTU, Belgavi | 68% | 2018 |
| **Higher Secondary** | kendriya vidyalaya | CBSE | 73% | 2014 |
| **High School** | kendriya vidyalaya | CBSE | 8.6 CGPA (82%) | 2012 |



**Personal Details**

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| **Fathers Name** | S.S. Mugali |
| **Mothers Name** | Jayashree Mugali |
| **Date of Birth** | 21/04/1996 |
| **Address** | C/O S.S.Mugali , Sahyadri nagar , Belgavi,  Karnataka , 590019 |
| **Nationality** | Indian |
| **Languages Known** | English, Hindi, Kannada |
| **Hobbies** | Watching and Playing sports (Boxing), Hanging out, Physical fitness. |

**Declaration:**

I hereby declare that above information is correct to best of my knowledge and belief.

**Place:** Bangalore **Date:**

**Basava Prabhu**