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**Objective:**

To secure a challenging position as an Embedded Systems Developer in a dynamic organization where my technical skills, educational background, and passion for innovation can contribute to the development of cutting-edge embedded systems solutions.

# **Summary:**

* Experience in Linux internals, including management of processes, memory, and file systems. Skilled in various **IPC mechanisms** such as pipes, FIFOs, shared memory, message queues, and **synchronization mechanisms** like mutex, semaphore, and spinlock.
* Good experience in **Linux Kernel Module Programming**, including **char driver** .
* Familiarity with ARM architecture.
* Hands-on embedded **C** and **data structure** programming.
* Solid understanding of GPIO and **communication protocols** such as I2C, SPI, and UART.
* Good Knowledge on firmware development for ARM-Cortex-M4 based boards.
* Proficient in understanding the **data sheet and reference** manuals of the boards.
* Skilled in cross-compilation techniques.
* Good understanding of **kernel porting.**
* Basic Knowledge on code flow by applying **ctags**.
* Experience on source code version control tool (GIT).

**Skillset:**

* **Configuration Management :** Git
* **Build Tools**  : make
* **IDE & Debugging Tools** : Eclipse, Keil**,** GDB,T32
* **Operating Systems** : Windows ,Linux

**Professional Exposure:**

|  |  |  |
| --- | --- | --- |
| **Name of the Institution** | **Year of Passing** | **Percentage/CGPA** |
| Kernel Masters | 2023-2024 | Grade-A |
| Sreenidhi Institution of Science and technology | 2019-2023 | 7.02CGPA |
| Narayana Junior College | 2017-2019 | 94.8% |
| Hyderabad Public School | 2016-2017 | 75% |

**Personal Details:**

**Date of Birth**: 25-10-2001

**Pin Code**: 505469

**Employment Summary:**

* Serving as a Software Engineer-I at Mirafra Software Technologies, engaged with Qualcomm India private limited, Hyderabad since May 2024.  
  Completed a 2-month on-site assignment at the client location, contributing directly to project execution and collaboration.

**PROJECTS:**

**Title: Enabled RTC driver in the Linux kernel.**

This Activity objective is to interact with ds1307 RTC device. Added rtc node support into the Device Tree Source (DTSi).

**Responsibilities:**

* Understand the I2C protocol and frame format of it.
* Enabled I2C MUX configuration and rtc in the Linux kernel.
* Build the source code and flash into the device.
* Implemented user space application to verify this driver.
* Debug and fixed all the compilation errors

**Title: Kernel Module Development (i.e., character driver)**

Tool: C, make

Platform: Linux

**Description:**

* Developed character driver development and user space application to test it
* Debugged and fixed the issues got during development by doing log analysis

**Title:** Linux Kernel Upgrade for Qualcomm APQ8016 Chipset.

Tools Used: C, make, Git

Platform: Linux

**Description:**

* Customized Linux kernel version 4.11 according to customer specifications.
* Implemented porting of all DTS (Device Tree Source) file changes into the kernel.
* Enabled drivers as per customer requirement.
* Cross-compiled target images and successfully initialized the device.
* Thoroughly verified functionality and compatibility of all enabled drivers on the target device.

**Title: Smart Weather Monitoring System**

The project involves utilizing the STM32F401RBT6 development platform, along with Keil and stm32cubemx, on a Windows system. The task at hand is to measure the surrounding temperature using the Raayan Mini board, upload the data to Kernel Master's cloud server, and display it on a monochrome LCD screen. The system should update both the LCD and the cloud server with the temperature value every 5 seconds.

**Roles & Responsibilities:**

For this project, the code implementation was based on thorough research of the reference manuals and datasheets of the ESP8266, STM32F401RBT6, ESP8266 AT instruction manual, Raayan Mini user manual, Cortex M4 programming manual, and the 16x2 Monochrome LCD Wikipedia page.

**DECLARATION:**

I hereby declare that the above-mentioned information is true to my knowledge and I bear the responsibilities for the correctness of the above particulars.

Place:

Date: GANJI UDAY KIRAN