Yoganathan Venkatesan
Senior Embedded Developer

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Yoganathan Portfolio

Technical Skills :

- ❖ Hands on experience in Board bring up, Firmware development, Linux networking, Bootloader, Linux kernel Internals, Windows device driver, Microcontroller driver development, and FreeRTOS.
- ❖ Experience in Agile Framework methodology.
- ❖ Familiar with x86 and ARM processors, STM32(ARM Cortex Processor), Renesas(8/16 bit CPU core), MSP430, ESP32, ESP8266, Raspberry PI, BeagleBone.
- ❖ Extensive experience in LoRaWAN, and networking protocols like FOTA, DHCP, ARP.
- ❖ Excellent analytical, developing and debugging firmware for peripherals such as DAC, TIMER, ADC, RTC, WDT, PWM, DSADC, and Low Power Modes.
- ❖ Robust Development and debugging of device driver and application program for communications using UART, I2C, SPI, 1-Wire and knowledge about CAN protocol and its working functionality.
- ❖ Proficient to understand the datasheet and hardware schematics.
- ❖ Ability to understand and debug the analog and digital electronics circuit design.
- ❖ High-level hardware and software debugging using oscilloscopes, Volt/Ohm meter, and function generator.
- ❖ Programming Languages: C, C++, Bash Shell Scripting, Python(Basic).
- ❖ Having In-depth knowledge of the complete boot process of the system.
- ❖ Understanding and implementing Linear Data Structures.
- ❖ Exposure to debugging tools like lauterbach, SWD, JTAG and DediProg.
- ❖ Experience in Version management systems tools like GIT.

Awards and Achievements:

- ❖ Received **5** times **Start of the sprint (4 out of 6 sprints)** in Dell Technologies.
- ❖ Received **Techie award** in Outdid Unified LLP.
- ❖ Completed Mastering Microcontroller and Embedded Driver Development, Linux Driver programming and FreeRTOS Courses in Udemy Course.

Experience :

★ Dell Technologies, Bangalore (Wipro Payroll)
        July 2023 - present
- Senior Software Engineer

★ Outdid unified LLP, Bangalore
        January 2022 - June 2023
- Senior Firmware Developer

★ Robert Bosch Engineering and Business Solutions, Coimbatore
        July 2021 - January 2022
- Automotive Software Developer

★ MS Tech Pvt.Ltd, Bangalore
        June 2019 - June 2021
- Embedded Developer

Course :

➔ **Embedded Systems - Linux (In Progress)**

    Emertxe Institute for Embedded Systems - Bangalore

Modules Covered: Bash Shell scripting, Advanced C, Data Structures, MCU, C++, Linux Internals and Linux Networking.

➔ **Embedded Systems - Microcontroller.**

    Techvolt Software Pvt.Ltd - Coimbatore

Modules Covered: Basic C, Microcontroller programming.

Education :

★ Karpagam Institute of Technology, Coimbatore - June 2015 - April 2019
- B.E - ELECTRONICS AND COMMUNICATION ENGINEERING

★ Government Boys Higher Secondary School, Uthangarai - June 2014 - April 2015
- HSC - Biology Mathematics

★ Government Boys Higher Secondary School, Uthangarai - June 2012 - April 2013
- SSLC

Projects:

1. **UEFI/BIOS:**

   Responsibilities:

   - ➢ Understanding existing windows drivers and implementing new features and porting it into ARM.
   - ➢ Developing scripts for automating the test cases, fixing bugs and optimizing the source code.
   - ➢ Understanding Checkmarx and Coverity Errors and fixing those issues.
   - ➢ Implementing changes in makefile, .bat, .inf, .dsc and .dec files.
   - ➢ Collaborate with cross-functional teams to implement or integrate drivers.

2. **EV-Charger for Car - (Single & Three Phase)**

   Responsibilities:

   - ➢ Complete Design, Development, and testing of OCPP Application Layer and Bootloader.
   - ➢ Complete application development for interfacing Ethernet, LTE, WiFi, and RFID.
   - ➢ Design and implement software for embedded devices and systems from requirements to production and commercial deployment.

3. **THERMAL PRINTER - 3" & 2" (RX111)**

   Responsibilities:

   - ➢ Developing API for integrating BLE, WiFi, Printer Head, and stepper motor driver.
   - ➢ Monitoring Battery voltage level and Enabling Low Power Mode.

   Current Consumption is 30uA when it's low power Mode.

4. **OCCUPANCY SENSOR MODULE with FreeRTOS**
   - ● **Using LoRa**
   - ● **Using WiFi**

   Responsibilities:

   - ➢ Application design, development, and testing using FreeRTOS stack.
   - ➢ Application development to read the data from sensors.

   Average Current Consumption: 12uA.

5. **GAS & WATER METER with LoRaWAN**
   - **Using LC Sensors**
   - **Using Magnetic Read Switch**

Responsibilities:

➢ Application Development for calibrating meter value and enabling Low power.

➢ Application development to read the data from sensors.

The average Current Consumption is 5uA.

Personal Details:

- Father's Name: Venkatesan
- Marital Status: Married
- Languages Known: English, Tamil, Telugu, Kannada
- Home Address:
  - ❖ Padavanoor(vill), Uthangarai, Krishnagiri, Tamil Nadu - 635304.

Career :

   To work in a challenging atmosphere by exhibiting my skills with utmost sincerity and dedicated smart work for the growth of your esteemed organization along with mine.