



VEDANT PAITHANKAR

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Profile Summary:

An inquisitive Master's student with 2 years of professional experience as Firmware Engineer with a relentless drive to deliver and relish for a challenging work environment.

WORK EXPERIENCE

09/2019 – 08/2021 – Pune, India

FIRMWARE ENGINEER – Tata Elxsi

- Built a USB driver for managing data transfer on Nvidia Jetson TX2 and established USB Hot plug functionality.
- Developed a GPIO and I2C microcontroller peripheral drivers to test camera, motors, solenoid valves, IR sensors at device bootup.
- Refined the design of firmware update shell script to manage the firmware on the eMMC memory.
- Experienced in developing multi-threaded Linux based applications in C and C++ programming language.
- Maximized the product efficiency by optimizing the processing cycle time by 40%.
- Mentored interns to understand the embedded software engineering code development process in the team.
- Good understanding on ARM based toolchains and basic knowledge about code analysis tools like Semmlle.
- Managed debugging application-level issues reported by the customer in the field.

10/2018 – 12/2018 – Pune, India

ANDROID DEVELOPER INTERN – Word bite Technologies Pvt Ltd

- Collaborated with cross functional team to set up Bluetooth functionality.
- Basic knowledge about UI layouts such as List View, Fragments, Frames, Activities.

EDUCATION

09/2021 – Present

MASTER OF ENGINEERING – Ravensburg Weingarten University of Applied Sciences

- Electrical Engineering and Embedded Systems

02/2019 – 08/2019

POST GRADUATE DIPLOMA – Centre for Development of Advanced Computing

- Embedded Systems and Design

08/2014 – 08/2018

BACHELOR OF ENGINEERING – Savitribai Phule Pune University

- Electronics & Telecommunication

● PROJECTS

02/2022 – 03/2022

Custom Bootloader for STM32 Nucleo Board

- Developed a UART driver on STM32 microcontroller to communicate with Host using In-Application Programming.
- Implemented functionalities in Embedded C to jump to user application and performed erase operations such as sector erase and mass erase.
- Executed various critical bootloader functionalities on flash memory such as read, write and reading option bytes.

11/2021 – 12/2021

IOT Based Tracking System

- Simulated the inter-process communication through FIFO between GSM and Microcontroller using Transaction level Modelling (TLM) in System C.
- Improved throughput and minimized system resource usage by utilizing POSIX thread synchronization techniques; mutex and conditional variables.
- Decreased complexity and optimized compilation time by parallel compilation through Makefile build tool.

04/2019 – 05/2019

Driver Assistance System using CAN

- Implemented a CAN interface between two multi-master STM32 microcontroller nodes to send and receive data packets.
- Achieved high speed communication approximately 8 MHz through SPI to configure CAN Transceiver's MCP2515 with master nodes.

● SKILLS

C | C++ | Python | BASH Scripting

Hardware Skills

NVIDIA Jetson | STM32 | ARM-Cortex M3 | Arduino, ESP8266 / ESP32 | Raspberry Pi | AVR32

Communication Protocols

USB | CAN | SPI | I2C | UART | TCP / IP | NFC

Operating Systems

Windows | Linux | FreeRTOS

Development and Debugging Tools

GIT | Visual Studio Code | Logic Analyzer | Jupyter Notebook | Espressif ESP32 (ESP-IDF and Arduino) | CRO | Eclipse | STM32CubeMX

● LANGUAGE SKILLS

English (Full Professional Proficiency) |
German (Elementary Proficiency A2)