Vedant Paithankar

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PROFILE SUMMARY

An inquisitive Masters student in Electrical Engineering and Embedded Systems at Hochschule Ravensburg-Weingarten with 2.5+ years of professional experience as an Embedded Software Engineer with a relentless drive to deliver in a challenging work environment.

SKILLS

C++ / C / Python / Embedded C

Hardware Skills

STM32 / NVIDIA Jetson TX2 / Arduino, ESP8266 / ESP32 / Raspberry Pi / Arm Cortex M3 / TI Jacinto 7

Communication Protocols and Operating System

TCP / IP / UART / USB / CAN / SPI / I2C / FreeRTOS / Linux / NFC / Windows

Development and Debugging Tools

GIT / Visual Studio Code / Logic Analyzer / Jupyter Notebook / Espressif ESP32 (ESP-IDF and Arduino) / Eclipse / STM32CubeMX / VIM / Code Composer Studio / Oscilloscope / Yocto Build

WORK EXPERIENCE

Embedded Software Intern

Robert Bosch Gmbh [01/10/2022 – Current]

City: Stuttgart

Country: Germany

- Board bring up and ported u-boot and linux filesystem to the TI Jacinto 7 based custom target.
- Customized u-boot, BSP layer and integrated Software Defined Vehicles using yocto.
- Designed a RAUC update layer for TI board with symmetric setup (2 Root filesystem A & B)
- Created own recipes to install required libraries and files in root filesystem.
- Improved the system functionality by developing customized booting script.

Embedded Software Engineer

Tata Elxsi Ltd [09/2019 – 08/2021]

City: Pune

Country: India

- Built an user-space USB gadget driver on Nvidia Jetson TX2 and established a USB Plug and Play functionality.

- Developed a GPIO and I2C microcontroller middleware drivers to test camera, motors, IR sensors at device boot up.
- Refined the design of firmware update script to manage the firmware on the microprocessor.
- Enhanced the system performance by developing multi-threaded Linux based embedded applications in C/C++.
- Gained experience in working with OOPS concepts, POSIX Threads, STL, boost, filesystem and chrono libraries..
- Debugged firmware level issues and tested product to validate application architecture and design.
- Maximized the embedded product efficiency by optimizing the processing cycle time by 40%.
- Mentored interns to understand the embedded design and development process in our team.
- Worked in an agile environment and maintained firmware using GIT version control.

EDUCATION AND TRAINING

Master of Engineering - Electrical Engineering and Embedded Systems
Ravensburg Weingarten University of Applied Sciences [09/2021 – Current]

Post Graduate Diploma - Embedded Systems and Design
Centre for Development of Advanced Computing [01/2019 – 08/2019]

Bachelor of Engineering - Electronics & Telecommunication
Savitribai Phule Pune University [08/2014 – 08/2018]

PROJECTS

Custom Bootloader for STM32F446RE Nucleo Board
[02/2022 – 03/2022]

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

Advanced Driver Assistance System (ADAS) using CAN
[04/2019 – 05/2019]

- Implemented a CAN interface between two STM32 Microcontroller nodes to send and receive Ultrasonic, Speed sensor values.
- Achieved high speed communication approximately 8 MHz through SPI to configure CAN Transceiver's with master nodes.

LANGUAGES

Other language(s): **English (Full Professional Proficiency), German (Elementary Proficiency A2)**