Ashish Hemant Jog

Embedding intelligence for seamless operation in resource-constrained devices.

newssac@gmail.com 8928710355 Mumbai, India https://ashish-jog.github.io/

WORK EXPERIENCE

Schneider Electric (Embedded Design and Development Center)

Deputy Manager - Embedded Systems , Mumbai — January 2023 - Present

- Responsible for End-To-End Firmware development for the Numerical Protection Relays
- Developed the protection algorithms based on the IEC standards
- Developed the non-volatile memory manager for Octo-SPI based Flash
- Developed the portable libraries for display menu navigation, communication protocols
- Built custom Linux kernel image, boot via TFTP, reduced boot latency, ethernet driver development
- Evaluated Zephyr RTOS on RISC-V controllers against the existing traditional RTOS-ARM projects

Newspace Research and Technologies (Aerospace Electrical Power Systems)

Firmware Design Engineer - II , Bengaluru — October 2022 - January 2023

- Responsible for the firmware development of BMS and MPPT subsystems for the pseudo-satellite
- Responsible for the development of the ground control system GUI using QT framework
- Developed the CAN driver for dsPIC33CH dual core controller
- Developed the test bench for testing the servos based on the flight PWM data
- Resolved critical bugs in the existing data storage scheme for SDHC interface

Hind Rectifiers Ltd (Railway Traction, R&D)

R&D Engineer , Mumbai — July 2019 - February 2022

- Responsible for the HMI and communication firmware for converters supplied to Indian Railways
- Established communication interfaces like CAN, MODBUS for different control cars within a panel
- Developed the scheme for recording the data onto the external flash memory and to USB FAT FS
- Developed the energy meter for the Hotel Load Converter

EDUCATION

CDAC ACTS PUNE

Post Graduate Diploma in Embedded Systems Design - 80% — March 2022 - October 2022

Mumbai University (RAIT, Navi Mumbai)

B.E. in Electronics Engineering - 7.8 GPA — July 2015 - April 2019

PROJECT

Customization of the Linux kernel image for India's first RISC-V Processor — May 2022 - October 2022

- MEITY Sponsored project @ CDAC's HPC Department

STM32H5 driver development and Zephyr Support for H5 series — Ongoing

- Contributing to ST's Open Repositories

Certifications

- Professional Certificate in Embedded Systems Essentials with Arm, edx, ArmEducationX
- Professional Certificate in Advanced Embedded Systems on Arm , edx, ArmEducationX
- Arm Cortex-M Architecture and Software Development Specialization, Coursera, ARM
- Building Applications with RISC-V and FreeRTOS, edx, LinuxFoundationX
- Unix System Design, Astromedicomp
- Real-Time Embedded Systems Specialization, University of Colorado Boulder, Coursera
- Advanced Embedded Linux Development Specialization, University of Colorado Boulder, Coursera

SKILLS

- Higher and Lower Level Firmware Architecture and Data Structures
- C, x86 Assembly Programming, AArch64 Assembly Programming
- Loadable Kernel Modules, Linux Driver and Application Development, System Programming
- RTOS, Multi-core architectures firmware, IPCs, Synchronization Mechanisms, Custom Schedulers
- Architectures:- ARMv7-M,v8-M, ARMv7-A, RV64IMAFD, x86(IA-32), PIC, dsPIC33, C2000, AVR
- MCUs and DSCs:- STM32-F4,F7,H7,H5,G0, TMS320F28379D, NXP-MK22, AM335x, dsPIC33CH, NRF70
- Protocols:- xSPI, I2C, UART, CAN, Modbus, USB