

Contact

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Highlights

I've worked on a lot, but the market seems to always like these points. I have 10 years of professional experience working in small to large teams at various stages. From board bring-up to manufacturing:

- Operating systems: *Linux (kernel & userspace)*, *FreeRTOS*, and *Zephyr*
- Architectures: *ARM (ARMv7, ARM64, Cortex-M0, Cortex-M33)*,
- Extensive development with *IMX6/7*, *Zynq MPSoC*, *Atmel SAMD21*, *LP55S69*, and *Renesas* boards.
- Linux/FreeRTOS/Zephyr/Baremetal driver development of **common serial protocols**: *I2C*, *I2S*, *SPI*, *UART*, and *USB*.
- Linux driver support for communication stacks: *Wifi/BLE*, *PCIE*, various *NICs*.
- Build systems: *Yocto*, *Zephyr's West*, *Unix Makefiles*, *CMake*, and *Meson*.
- Languages: *C*, *C++*, *Python*, *Bash*, *Rust*, and *Java*
- Collaboration software: *Git/Github/Gitlab/Bitbucket*, *Jira*, and *Confluence*.

Details of this can be found in the experience section below:

Experience

Idexx

Senior Software Engineer October 2024 - now

- **Yocto BSP Refactoring:** Ported previous build system and linux image from a 2.11.xx kernel to 6.11.xx. based in Yocto. Updating to an **IMX8** SOM.
- **Userspace Hardware Library Development:** Ported the functionality of MCU firmware drivers to a userspace library.
 - Utilized **I2C** and **PWM** in linux userspace on **IMX8** SOM.

Amazon Kuiper

Senior Software Engineer June 2024 - October 2024

- **Yocto Image Validation Testing:** Performed testing validation and support for Yocto based power distribution devices.

Witekio

Embedded Software Engineer July 2020 - April 2024

- **Linux MPU BSP Development and Support:** Developed Board Support Packages for customers.
 - **Hardware Experience:**
 - * Zynq Ultrascale MPSoC
 - * NXP IMX6 and IMX8 (Cortex A53/A72, Vivante GPU)
 - * RPI Compute Module 4 (Cortex A72)
 - * Jetson Xavier NX (NVIDIA Carmel ARMv8 CPU, Volta GPU)
 - **Software Experience:**
 - * Yocto
 - * Buildroot
 - * Docker
 - * Linux Drivers (SPI, I2C, Wifi, Bluetooth)
 - * Git

- * C/C++
- * Posix Shell
- **MCU OS/Application Development and Support:** Developed software stacks for microcontroller
 - **Hardware Experience:**
 - * NXP LPC55S69 (Cortex m33)
 - * Atmel SAMD21 (Cortex m0+)
 - * Renesas family (Cortex m33)
 - * Azure Sphere mt3620 (Cortex A7)
 - **Software Experience:**
 - * OS development on major platforms: **FreeRTOS**, **Azure RTOS** as well as baremetal.
 - * Driver development: **I2C**, **SPI**, **UART**, **GPIO**, **Wifi**, **Bluetooth**, **Ethernet**
 - * Git
 - * C/C++

Sierra Nevada Corporation

Software Engineer September 2017 - July 2020

- **GUI Tool Development:** Developed GUI tools for use by customers and developers with pywebview and javafx
 - **Embedded Application Development:** Worked on Linux application and kernel software for an embedded platform to aggregate and distribute high-bandwidth data to user front-end systems
 - **Manufacturing Support:** Developed manufacturing tools for flashing firmware and validation
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Education

University of Nevada, Reno

Bachelor of Science: Electrical Engineering, GPA: 3.7 **August 2013 - May 2017**

Publications

Brain emotional learning-based intelligent tracking control for Unmanned Aircraft Systems with uncertain system dynamics and disturbance

Implementation of Brain Emotional Learning-Based Intelligent Controller for Flocking of Multi-Agent Systems

A low-computation distributed connectivity control for coordinated multi-UAS

Low-computation dynamic generation of distributed connectivity control for varying sized multi-agent systems