James Ross

jamesmross4@gmail.com
(253)310-6664

Education

B.S. Computer Engineering: Embedded Systems, Portland State University (expected graduation 3/23/2023)

Objective

Working in a Linux or an embedded Linux environment. Testing and developing drivers for the Linux kernel to run hardware interfacing with the OS.

Skills

C, C++, Python, ARM assembly, Arduino, Code Composer Studio for TI microprocessors/micro-controllers, Cadence Virtuoso.

Github

https://github.com/sedihglow

Projects

Linux Kernel Driver for PCIe, Portland State University
- Wrote a Kernel program in C that interfaced with I/O ports and memory.
- Connected char dev drivers to underlying PCIe ethernet card where data was received and handled via DMA implementing timers, work queues and interrupts.

Simulated an L1 instruction and data cache, Portland State University
- Using C++, with a team developed an L1 n-way associative cache for a 32-bit processor.
- L1 cache was backed by a shared L2 cache which was simulated.
- LRU replacement policy.
- Followed MESI protocol.

Capstone Project, Novus Labs
- Worked with three development boards, Wiced Wi-Fi board, AM335x starter kit, and particle boron LTE to create the concept of a gateway device.
- Connected the boards using I2C to transfer data from the Wiced board, through the AM335x and to the Particle Boron to send to the cloud.
- Worked on the AM335x which used mainline Linux and the Particle Boron code to successfully sent data to the cloud.

Work Experience

Biketrak start up - Computer Engineer - Aug 2017- Aug 2018
- Maintained and debugged existing code base.
- Developed new firmware for additional functionalities like bulk upload of information and drivers for flash memory.
- Hardware debugging with oscilloscopes and multi-meters.
- Soldering on the PCB.

OCO Labs - Computer Engineer - Feb 2016 - April 2016
- Used Arduino to program pressure control for an oil extraction machine using a stepper motor.

Various restaurants, Line cook - 2008 – 2018
- Management experience for a small kitchen team.