

Douglas Concors

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Personal Profile

An enthusiastic embedded software engineer with a focus on hardware hacking and device drivers. I have 6 years of experience developing drivers and hardware platforms for Cubesat radios running Linux and custom FPGA IP cores. I am searching for an opportunity to help a small business with software and FPGA integration.

Education

BS Computer Science (2016) - California State University at San Marcos

Employment History

Dec 2020 - Present	Quantum Design <i>Embedded Software Engineer</i> Skills: <i>Test Development</i> - Wrote a simple python GUI application to read and write FPGA registers for board verification. <i>Feature Upgrades</i> - Add feedback for reading status of air pressure switches in Microscope from GUI software
Jan 2014 - Dec 2020	Vulcan Wireless <i>Embedded Software Engineer</i> Skills: <i>Driver development</i> - Wrote drivers to allow Linux SDR applications communicate with custom memory mapped VHDL IP cores. <i>Hardware bring-up</i> - Ported Linux distributions such as buildroot to new radio hardware, designed and troubleshot schematics, created build automation scripts to deploy applications and IP to the new hardware. <i>IP Integration</i> - Created and modified IP interconnect designs to allow processors to communicate with virtual devices within an FPGAs. Technologies: Xilinx Vivado, Xilinx SDK, GNU MAKE, Python, C, Bash, VHDL
Mar 2013 - Jan 2014	Staples INC <i>Easytech Associate</i> Sold and repaired electronic devices, interfaced with customers.

Hobbies and Personal Projects

FPGA Synthesizer Quad channel audio synthesizer controlled via SPI implemented in VHDL.
Demoscene projects Various video rendering demonstrations using a low power 16-bit microcontroller.

Software Engineering Skills

- **Programming Languages**

C - Microcontrollers (MSP430, AVR), chip-to-chip communication (SPI, I2C, memory map, serial), Linux drivers, threading, and networking

VHDL - Create new IP, integrate existing IP into new designs

Python - PySerial, sockets

- **Miscellaneous**

Git - Source code version control

Soldering - Can solder 0804 SMT and QFP

Microsoft Office - Word, Excel, etc