

Al Piepho

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<https://www.linkedin.com/in/al-piepho-fw-sw-engineer>



Software | Firmware | Embedded Systems | Web Development

- 15+ years developing and debugging Software for highly constrained Embedded Systems
- Recently expanded those skills toward Web development and scraping
- Very strong in numerous languages, most recently Python, Javascript, HTML, CSS
- Demonstrated ability to ramp up on existing systems and contribute quickly
- A self starter who welcomes the chance to own the difficult problems
- Continually looking to be the “force multiplier” that makes my team more effective

Skills

Programming Languages: C, C++, Python, JS, HTML, CSS, C#, .Net, Assembly, Scripting

Operating Systems: Raspian, Ubuntu, Debian, Mac, Windows

Hosted Platforms: Azure, Heroku, some Google, some AWS

SW Development Tools: Git, Visual Studio Code, Eclipse, Postman, Vi, Meld

FW Development Tools: Various emulators, various HW scopes

Testing Frameworks: Selenium, Jenkins

Protocols and Standards: JSON, REST, XML, USB

Work History

Danaher (Hach), Northern Colorado

December 2017-Present

FW/SW Engineer

- Designed IOT system connecting existing product to Azure cloud, with Node.js, on Raspberry Pi.
- Implemented several test and build automation tools in Javascript and Python
- Developing firmware for water measurement devices, on a legacy based product (no OS) and more recently a Yocto embedded Linux system.

In-Situ, Northern Colorado

September 2017-November 2017

- Short-Term Gig working with Mobile App SW development with C#, .Net and Xamarin
- Designing automated test framework with Xamarin UITest (formerly Cabash)
- Ported UITest framework to Raspberry Pi running Raspian, .Net Mono, and ADB

Individual Training, Northern Colorado

April 2017-September 2017

- Time off to learn and travel
- Finished 200 hour freeCodeCamp (FCC) Front-End Development certification in 26 days
- Finished 200 hour FCC Data Visualization certification using Javascript and D3.js
- Near completion of FCC Back-End certification using Node.js, Express.js, and MongoDB

- Completed of 50 Day “CSS Challenge” to build complex web graphics with CSS only.

Broadcom LTD (Avago Technologies), Northern Colorado

2013-2017

Senior Firmware Engineer

- Designed and implemented very low level, efficient FW for several SERDES (serialize/deserialize) ASICs used in very high speed computer interfaces such as Ethernet, SAS/SATA
- 3 years coding with Ruby, including complex area of marshaling to Native C as part of a test tool
- Tackled the tough problems, such as recovering memory, and improving existing debug tools

Schneider-Electric (Pelco), Northern Colorado

2008-2013

FW/SW Engineer

- Integrated third party video analytics SW into existing digital video camera, allowing competition in new market segment
- Several years as part of very successful Agile/Scrum development team

Hewlett-Packard Company, Northern Colorado

2001-2008

FW Engineer - Consumer Imaging Products

- Developed FW for several digital cameras
- Local expert in key areas: performance and embedded code/memory usage
- Reduced effective camera boot time from 5 seconds to under 1 second.
- Designed SW simulator for DSP image processing engine of 2 competing ASICs, allowing direct porting of key algorithms between platforms

Lead SW Engineer - Consumer Entertainment Solutions

- Architect for exciting home entertainment product in a fast paced emerging product category
- Leveraged many existing and new Linux applications into one of first Internet appliances
- Saw product released to local Best Buy store shelves

Training

Front End Development Certification - FreeCodeCamp
40+ Course Certifications - LinkedIn/Lynda.com

Education and Training

Bachelor of Science, Electrical Engineering - University of Colorado, Boulder CO

Bachelor of Science, Computer Science - Iowa State University, Ames IA

Awards

Author on 6 U.S. Patents, see LinkedIn page for more details

Web Technologies Portfolio

<https://alpiepho.github.io/project-portfolio/>

