

# AL PIEPHO

E: [alpiepho@gmail.com](mailto:alpiepho@gmail.com) | LI: [linkedin.com/in/al-piepho-fw-sw-engineer](https://www.linkedin.com/in/al-piepho-fw-sw-engineer)

## SUMMARY

Problem solver. Always looking beyond the current work for way to do things better. With a strong background in Embedded Systems firmware design, and supporting software tools, have expanded into python, web programming, and IOT devices. Combining new skills to design better web and raspberry pi based test tools, web-automation, and mobile applications.

## SKILLS & EXPERTISE

Programming Languages • C/C++ • Javascript/HTML/CSS • Python • bash scripts • various ASM  
Programing Frameworks • Node/Express • jQuery • React • React Native  
Testing Frameworks • Jenkins • Selenium • Postman  
SW Development Tools • Git (Github, Bitbucket) • Visual Studio Code • Eclipse  
Protocols and Standards • JSON • REST • XML • Modbus • USB  
Operating Systems • Linux • Raspian • Ubuntu • Mac • Windows

## EXPERIENCE

DANAHER CORPORATION (HACH CHEMICAL) | Loveland, CO

Firmware/Software Engineer

2017 – Present

Hach is the world leading manufacturer of water analysis and monitoring devices for large scale water systems. With a product portfolio consisting of new and well established products dating back 10+ years, design for reliability and robustness is crucial.

- Designed prototype IOT system that seamlessly connected existing product to Azure cloud, with Node.js, on Raspberry Pi.
- Developed firmware for water analyzers with reliability/robustness that exceeds the current products.
- Improved team effectiveness by Implementing test and build automation tools in Javascript and Python.

BROADCOM LTD (AVAGO TECHNOLOGIES) | Fort Collins, CO

Senior Firmware Engineer

2013 – 2017

- 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) | Fort Collins, CO

Firmware/Software Engineer

2008 – 2013

- 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

Firmware Engineer - Consumer Imaging Products

2003 – 2008

- 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.

## ALWAYS LEARNING

PROJECT PORTFOLIO SITE | [alpiepho.github.io/project-portfolio/](https://alpiepho.github.io/project-portfolio/)  
My original portfolio site in HTML and vanilla-JS, soon to be upgraded to React

BASEBALL SCORES WEB SCRAPING | [github.com/alpiepho](https://github.com/alpiepho) (pending)  
Python tools using Selenium to automate gathering of box scores and re-compute player stats for youth baseball teams.

BASEBALL SCORING MOBILE APPLICATION | [github.com/alpiepho](https://github.com/alpiepho) (pending)  
React-Native with Expo mobile application to allow keeping score of a youth baseball game in a simple form and automatically text information to others.

HARVARD CS50 - REACT NATIVE DEVELOPMENT | [cs50.github.io/mobile/lectures](https://cs50.github.io/mobile/lectures)  
My latest online course to ramp up on React-Native

LINKEDIN LEARNING (Lynda.com) | [linkedin.com/learning](https://linkedin.com/learning)  
Completed 40+ Courses

50 DAY CSS CHALLENGE | [codepen.io/collection/DYpQdK/](https://codepen.io/collection/DYpQdK/)  
Completed 50 CSS Only animation challenges

FREE CODE CAMP | [freecodecamp.org](https://freecodecamp.org)  
Front End Development Certification  
Data Visualization Certification  
Back End Certification - Pending

## EDUCATION

UNIVERSITY OF COLORADO | Boulder, CO  
Bachelor of Science, Electrical Engineering

IOWA STATE UNIVERSITY | Ames, IA  
Bachelor of Science, Computer Science

## AWARDS

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