

Corwin A. Perren

767 SE Mayberry Ave.
Corvallis, OR 97333
(360) 320-6221
✉ caperren@caperren.com
📧 www.caperren.com
www.linkedin.com/in/caperren



Education

Computer Science — Oregon State University, Corvallis, OR.

Expected Graduation August 2019 – Current GPA: 3.13

Experience

Sept. 2013 – **Automation Engineer/Team Lead, Sinnhuber Aquatic Research Laboratory, Corvallis, OR.**

Present **Team Lead (2014–Present)**

Directing a team of 2–4 engineering students to automate research tasks with custom electronics and software.

ZScan Processor (2017–Present)

Designing software to split, rename, and perform network transfers of high-resolution images of 96-well plates with automated computer vision barcode assignment.

Shuttlebox Behavior System Redesign (2013–2014, 2017–2018)

Delivered 14 redesigned control boards for a Pavlov-based zebrafish behavioral training system. After three years, designed a simplified second revision with new lighting scheme and planned 50+ units. Assisted in development of new PC control software as well as firmware modifications for new boards.

Pick and Plate (2013–2016)

Designed and assembled the electrical and software aspects of a custom plating robot used to autonomously pick up zebrafish embryos and place them into a 96-well plate. Final product was approximately 1/50 the cost and 1/125 the size of previous generation units.

Dechorionator (2015–2016)

Designed a custom motion and pump controller using Altium Designer to perform controlled chorion removal on zebrafish embryos, as well as assisted in embedded C++ firmware development.

April 2016 – **Software/Electronics Engineer, CEOAS Ocean Mixing Group, Corvallis, OR.**

May 2018 **Robotic Oceanographic Surface Sampler (2016–2018)**

Assisted with the development, assembly, and debugging of software and electronics for a small fleet of autonomous water sampling kayaks. Gained field experience on two ocean research cruises to deploy and maintain kayaks at the LeConte Glacier in Alaska.

Sept. 2012 – **Member, OSU Robotics Club, Oregon State University, Corvallis, OR.**

Present **Software Team Lead — Mars Rover Team (2017–2018)**

Led a team of software and senior design project members to develop and integrate the software necessary for a remotely operated Rover to win 1st place in the Canadian International Rover Challenge.

Emergency Software Team Lead — Mars Rover Team (2016–2017)

Wrote emergency ground station software in nine days to remotely control and show Rover status over a serial radio link after the team lost their lead. Competition was the University Rover Challenge.

Electrical Team Lead — Mars Rover Team (2013–2014)

Led a team of electrical members to design, develop, manufacture, wire, and program all needed electronics for an autonomous Rover that competed in the Sample Return Robot Challenge. Personally developed embedded control boards for subsystems with Altium Designer. Wrote firmware in embedded C++.

Web Developer (2017–2018) | Lab Manager (2016–2017) | Treasurer (2014–2016)

Redesigned the club's website and managed the club's web server. Developed the club's student ID card RFID entry system using WiFi microcontrollers and Google App Script. Provided technical help to members through ECE/CS background. Managed club lab space, finances, and purchases.

Skills

Most Python | PyQt | Embedded C/C++ | Linux | PCB Assembly | Circuit Design/Debugging/Testing

Some x86 C/C++ | HTML/CSS | Javascript | OpenCV | C++ Qt | Google App Engine | Altium Designer

Least PHP | NodeJS | Android Development | Google App Script | x86 Assembly | Java | Haskell | Matlab

Hobbies/Interests

Robotics | Home Automation | Homelab | Amateur Radio (General Class) | Motorcycling | PCB Design

Full project details are provided on my website.

References available upon request.