



Personal Website

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# Joel Koehler

## EDUCATION

**Computer Science B.S. | Boise State University** (3.75 GPA)

FALL 2017 — SPRING 2021

**Running Start | Clark College** (3.77 GPA)

FALL 2015 — SPRING 2017

➤ Dual Enrollment Program

## EXPERIENCE

**Embedded Software Engineer | Hewlett-Packard**

JUNE 2021 — PRESENT

I am supporting HP Print Engine development by implementing enhancements, updates, and changes for portions and subsystems of firmware at both application and driver levels. I have the privilege to work alongside a team that spans multiple continents and cultures at a fortune 50 company. I am gaining experience with a large complex codebase that contains both vital legacy code and bleeding edge advancements in embedded firmware. Notable projects have included mentoring and supporting a summer intern, spearheading the design and implementation of a context-free grammar for a proprietary programming language, working with QT Creator to maintain the XML/C++ UI subsystem, migrating legacy code from C to C++, and spinning up Google test suites for driver components.

**Firmware Engineer Intern | Hewlett-Packard**

MAY 2020 — MAY 2021

Used Google Test & Google Mock to write unit tests for HP's print engine (C/C++). Gave tutorials on unit testing to my team, presented to upper management and select firmware teams up to 75 people. The gtest tutorial I created will be a guideline for testing other components for HP's firmware section. Worked closely with XML/C++ UI codebase by developing localization tests for multi-language support and rolling out bug fixes for UI bugs.

*(continued below)*

## **Computer Science Tutor & TA (MySQL & Java) | Boise State University**

JAN 2020 — MAY 2020

Taught and mentored students (1-on-1 and in groups up to 10) in MySQL & Java Database integration. Managed my online and in-person office hours, graded assignments and created automated grading scripts. Responsible for guiding students' progress towards their academic and professional development.

## **Applied Motion Systems | Technician Intern**

MAY 2018 — AUG 2018

Assembled and performed system testing on various industrial machines. The hands-on experience led to a deeper understanding of hardware and electrical engineering practices. This testing contributed to the completion of three multi-million-dollar paper processing machines, and several retrofits for companies like Benchmade.

### **SKILLS**

- Web
  - HTML & CSS (Bootstrap, w3.css)
  - Node.js/Express, PHP, Python/Django
- Mobile
  - Flutter (Dart)
  - iOS (Swift, Xcode)
  - Strong Java background
- Databases
  - MySQL, MongoDB
  - Database design
- UI tools
  - Adobe XD
  - Windows Forms (Dotnet)
  - Swing, Netbeans (Java)
  - QT Creator (C++/XML)
- Software Design Patterns
  - Wealth of experience designing and implementing Object-Oriented systems
  - UML diagram design
- Language design
  - Industry experience developing both context-free grammars and interpreters for proprietary languages
- Embedded/Firmware
  - C, C++
  - UI development (XML and C++)
  - Multi debugger tool
  - Experience developing for large codebases in HP's print division for both Linux and in-house operating systems
- Dotnet
  - C#, VB.NET
  - Visual Studio IDE
- Audio
  - JUCE C++ framework for creating VST plugins
  - Deep knowledge of audio synthesis and theory
  - Some experience with MIDI
- QA/Testing
  - Significant unit test experience (Google Test suite, gtest, gmock, JUnit)
- Source Control & tools
  - Git, Github, Gerrit
  - Some experience with Jenkins, Circle CI, AutoCI, and Docker
- Scrum tools
  - Jira, Trello, Github/Zenhub