



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 support HP firmware development for a variety of printer models at both application and driver levels. I have the privilege to work alongside a team that spans multiple continents and cultures, and have gained experience with a complex codebase that contains both vital legacy code and new advancements in embedded firmware. Notable projects include: mentoring summer interns, supporting embedded web server development (Typescript/Angular), implementing embedded REST APIs, creating a context-free grammar for a proprietary programming language, working on QML-based printer UI, migrating legacy code from C to C++, and writing unit tests 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 printer UI codebase by developing localization tests for multi-language support and rolling out UI bug fixes.

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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
 - Node.js, Express.js, PHP, Python/Django
 - Some experience with React and Angular
- Mobile
 - Flutter (Dart)
 - iOS (Swift, Xcode)
 - Strong Java background
- Databases
 - MySQL, MongoDB
 - Database design
- UI tools
 - Adobe XD
 - Windows Forms (Dotnet)
 - Swing/Netbeans (Java)
- Software Design Patterns
 - Design and implementation of Object-Oriented systems
 - UML diagram design
- Language design
 - Industry experience writing context-free grammars & interpreters
- Embedded/Firmware
 - C, C++
 - UI development (XML and C++)
 - Multi debugger tool
 - Experience developing for large codebases in HP's print division
- Dotnet
 - C#, VB.NET
 - Visual Studio IDE
- Audio
 - JUCE C++ framework for VSTs
 - 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
- Scrum tools:
 - Jira, Trello, Github/Zenhub

ACTIVITIES & INTERESTS

- Member of several bands, music producer for local artists
- Oversaw CRU BSU's music ministry
- Working towards a Node.js backend certificate through Coding Made Simple