

# Adam Raine

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## Skills:

- **Languages:** TypeScript, JavaScript, HTML, CSS, C++, C, Python, Java, SQL
- **Framework experience:** React, Preact, Lit, Android SDK
- **Other experience:** Node, Chrome DevTools, Chrome DevTools protocol, Chrome Extensions, puppeteer, git, Linux, Docker, Google Cloud, Gemini API

## Work Experience:

### **Google – Software Engineer (*Remote, MI / San Francisco, CA*)** **June 2020 – Current**

- Team lead of Lighthouse core, a web page auditing tool that measures Core Web Vitals (CWV) and provides insights on performance, accessibility, and SEO
- Individual contributor to Chrome DevTools, primarily focused on the performance panel
- Individual contributor to Chromium and PageSpeed Insights
- Implemented new insights in the DevTools performance panel to give actionable advice to users debugging performance bottlenecks (optimize image sizes, reduce DOM size, render blocking requests)
- Implemented a new landing page in the DevTools performance panel that measures local CWV metrics and contextualize them with real user data from the Chrome UX Report (CrUX)
- Developed Lighthouse user flows to audit web pages beyond the initial page load. Implemented new UX to display reports for multiple user journey steps in a unified flow report
- Created new audits for: determining back/forward cache eligibility, ensuring CSP strictness, identifying non-composited animations, and others
- Adjusted performance insight prioritization to focus on estimated performance metric impact (CWV, etc)
- Implemented a strict CSP on web.dev, providing extra defense against XSS for blog users
- Restructured Lighthouse codebase to enable user import of TypeScript declarations

### **Google – Software Engineering Intern (*Waterloo, ON*)** **May 2019 – August 2019**

- Individual contributor of the Chrome Animations team working on CSS Paint
- Enabled color animations on the worklet thread when using CSS Paint. Developed a main thread fallback for paint functions that had unsupported animation types

### **Bosch Automotive – Embedded Software Intern (*Farmington Hills, MI*)** **May 2018 – August 2018**

- Individual contributor to engine controllers software used in Ford vehicles
- Developed an industrialization block holding memory layout information
- Developed tests for analog signals to solenoids and starter motor fault detection circuits

### **IBI Group – Electrical Intern (*Southfield, MI*)** **February 2016 – April 2016 / May 2017 – August 2017**

- Contributed to electrical plans of facilities for GM, Toyota, Ford using Autodesk Revit

## Education:

### **University of Michigan** **September 2016 – April 2020**

- Computer Science BSE, College of Engineering
- **Relevant coursework:** Conversational AI, Computer Vision, Web Systems, Operating Systems, Database Management Systems, Computer Security, Data Structures and Algorithms

## Citizenship:

### **FIRST Robotics – Team 2834 Captain, Lead Programmer, Alumnus** **January 2012 – Current**

- Developed robot software for autonomous operation and user input
- Tuned PID controllers on digital sensors and processed visual input from a camera feed
- Lead team meetings every week and mentored new team members
- As alumnus, volunteered at FIRST events and participated in FIRST networking

### **UM::Autonomy – AI Team** **September 2016 – January 2017**

- Member of software sub team responsible for developing software to control the autonomous boat
- Created a PID Tuning tool to improve accuracy of the boat's movement in simulation