Samuel Davidson

Seattle, WA | (801) 833-3009 | samuel.bonnar.davidson@gmail.com
sambdavidson.com | github.com/sambdavidson | references upon request

Experience

Google
July 2017 - Present

Software Engineer

Google Kubernetes Engine (GKE) - *Security* - Present

- Built maintenance pipeline for IAM integration of Kubernetes OSS API server authorization requests using **Go**, ensuring 100% of GKE resources have a corresponding IAM permission with automated regression testing.
- Leveraged Trusted Platform Module (TPM) crypto functionality to harden GKE node bootstrapper in **Go**, improving cluster protection from misused bootstrapping credentials.
- Regular oncall and security incident IC duties. Brought multiple highly-sensitive OSS Kubernetes security incidents to a swift and discrete resolution by leading engineers, product managers, and technical writers to the necessary engineering and communication work.

Maps - *Traffic Quality* - February 2018

- Architected and built in **C++** a regression testing framework for LatLng path processing algorithm to ensure 95%+ correctness of know problematic LatLng paths.
- Refactored and enriched feature set of internal traffic analysis tools using **HTML**, **CSS**, and **JS** to improve maintainability and device support.
- Implemented speed and accuracy improvements to LatLng path processing service written in **C++** processing 100k+ QPS.

Expedia
May 2016 - August 2016

Software Engineer Intern

Travel Packages - *Pricing*

- Designed and implemented pricing service features in **Java** to minimize unnecessary margin loss in the pricing of packages, resulting upwards of **$4M+ in annual revenue growth**.

DealerSocket
May 2015 - February 2016

Software Engineer

Vehicle Dealership CRM - *Next Generation Team*

- Employed full-stack web development in **Typescript**, **HTML**, **CSS**, **NodeJS**, and **Angular** to build critical components of DealerSocket's then to be next generation CRM product.

Education

University of Utah
August 2013 - May 2017

B.S. Computer Science — GPA: 3.34

Relevant Coursework: Data Structure & Algorithms, Computer Networking, Operating Systems*, Distributed Systems*, Data Mining*, iOS Mobile App Development. (* Graduate Level)

Technical Skills: Go, Javascript (preferred), Typescript, HTML, CSS, C/C++, C#, Git, Angular, React, NodeJS, Google Cloud Product.

Projects

Spice Debugger
October 2016 - April 2017

Senior Capstone Project - GitHub - Website

Debugging that transcends time. A proof-of-concept application state debugger that captures all state throughout the entire execution of a program, aggregating all state into a single visualization to the user.

Electron based user interface built with **Typescript** and **Angular**, provides polished visualization and interaction with the attached debugging server.

Raftulizer

October 2016 - December 2016

Distributed Systems Self-Designed Project - GitHub - Presentation Slides

A physical interactive LED visualization of the Raft consensus algorithm. Built a Raft to LED networking and visualization interface which runs on a cluster of five Raspberry Pi Zeros via **Go** binaries. Raspberry Pi Zeros and LED displays are physically assembled into a large interactive display showcasing state sharing, cluster segmentation, and elections. Valuable teaching tool and professor's #1 project of the semester among ~15.

Mazenet

Winter 2015 - Present

Personal Project - GitHub - www.mazenet.net

A collaborative social webpage(room) spelunking game. Build and customize rooms within the graph of rooms. Explore and share rooms with your friends. I collaborated on system design, feature set, and API of Mazenet. I built the front-end UI from scratch with **Typescript**/**HTML**/**CSS** on top of **React** leveraging **Webpack** for its dev/prod compilation features. Through websockets, Mazenet supports live updated rooms and styles as well as visibility of and interaction with concurrently connected users within the same room. Try it with a friend!

Leadership, Honors, and Awards

University of Utah Industry Judged CS Capstones

2nd place of 17 projects with Spice Debugger project, my senior capstone project. Competition was judged by dozens of industry judges who are working professionals at local tech companies.

Treasurer and Events Chair, Triangle Engineering Fraternity

Maintaining the organization's finances, collected dues, and organized events with members and university faculty.