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## Professional Objective

To build devices and applications that enable humans to do amazing things.

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## Experience

### Simply Measured

**Software Engineer** October 2013 - Present

Developed and designed back-end platform services, including:

- An Account Service that decoupled user-related business logic from the front-end app and Salesforce APIs. The service managed over 50,000 user subscription records as well as decreased response time of the application by over 50% on average, from two seconds to less than a second.
- An Event Publication Service, which enabled Simply Measured's first third-party partnership with Shift Marketing Cloud. The service provided a generic interface for messaging across our platform, which enabled other core services to communicate in a scalable and isolated manner.

Created an internal development tool that improved the efficiency of product development by extracting and transforming data in our HBase clusters to local development formats, a process that would normally take weeks was reduced to a UNIX command line that could be executed in seconds.

Profiled and monitored queue workers that were critical to our data acquisition platform. Identified and fixed memory leaks such that worker boxes were able to stay running in perpetuity instead of thrashing after 6 hours under normal load.

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### Sifteo

**Software Engineer** December 2011 - July 2013

Designed, developed, and maintained all web services for Sifteo Inc. Including:

- A Game Publishing Service, which authenticated over 10,000 purchases of dozens of Sifteo games.
- An API Service that enabled over 3,000 users to purchase and download games through Sifteo's desktop software, Sifteo Sync.
- A Factory Auditing Service, which collected and reported on quality assurance data on over 300,000 Sifteo products created at Sifteo's manufacturing center in China.

Lead measures to improve web development, such as cultivating portable virtualized environments, automating deployments, and providing continuous integration for multiple web services.

Created modern, rich-media experiences on constrained machines with QT webkit, Javascript, and HTML5 technologies.

Developed an OSC client implementation that enabled Sifteo Cubes to communicate with Digital Audio Workstations and other OSC enabled devices.

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### Kelly Dunn LLC

**Freelance Software Engineer** October 2011 - Present

Freelance Web Development and Software Engineering primarily within the domain of creating audio-visual utilities and web services that enabled musicians to distribute their music across the web. Some experimental work with control interfaces, specifically with MIDI controllers.

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### Originate

**Software Engineer** June 2010 - October 2011

Built and maintained various web-based projects ranging across various technologies and domains, including e-commerce, gaming, and mobile networks. Worked in small, intimate teams with quick turn-over rates.

Responsibilities included estimating with clients, executing on desired features, and delivering a final product.

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### University of Washington

**Teaching Assistant** August 2008 - August 2010

Instructed undergraduates in the following areas of Computer Science:

- Syntax / Control Structures
- Data Structures / Runtime Analysis
- Object Oriented Programming
- Web Development

- MVC / Data Abstraction
- Databases

I also held weekly office hours, bi-weekly courses, and graded programming assignments and tests.

## Programming Languages

### Proficient

Go  
Ruby  
C

### Knowledgeable

Rust  
C++  
Clojure  
Python

### Exposure

Lush / CommonLisp  
Lua / Moonscript

## Protocols

### Proficient

HTTP / HTTP2.0  
SSL / TLS  
MIDI  
OSC

### Knowledgeable

USB  
TCP / UDP  
RTP / RTCP  
RTSP  
DLNA

### Exposure

SPDY  
DMX / RDMX

## Tools and utilities

### Proficient

Emacs  
Git  
Linux (Arch / Debian)  
Vagrant / Ansible / Chef  
PostgreSQL / MySQL  
Nginx  
Jenkins  
AMQP

### Knowledgeable

Apache  
Redis  
Selenium  
gdb  
LLVM

### Exposure

Nagios  
Kibana  
Elastic Search

## Notable Projects

**golang-geo** (<https://github.com/kellydunn/golang-geo>) - Geographical calculations in golang.

**crunchy** (<https://bitbucket.org/kellydunn/crunchy>) - Additive Wavetable Synthesizer in Rust.

**go-art** (<https://github.com/kellydunn/go-art>) - an implementation of Adaptive Radix Trees (ART) in golang.

**mumble** (<https://github.com/kellydunn/mumble>) - a MIDI multiplexer for monomes.

## Education

### University of Washington

**Bachelor of Arts in Japanese Linguistics** September 2006 - June 2010

## Volunteer Work

### Railsbridge

**Volunteer Instructor and Organizer** October 2010 - November 2011

Instructed and organized weekend workshops that enabled participants to create web applications using the Ruby on Rails framework. Events were held in the spirit of advocating and enabling gender diversity in technology.

## Personal

Musician  
Homebrewer  
Rock Climber  
Painter  
Open Source Contributor