

# MACK DUAN

 mduan.com 

 mack@mduan.com

 github.com/mduan 

## SKILLS

### Languages

C C++ C# Java PHP Python Erlang Ruby on Rails HTML CSS JavaScript

### Frameworks

Flask Node.js Sass Bootstrap jQuery Backbone.js React.js Require.js PhantomJS MongoDB mongoengine  
Redis MySQL Hive ASP.NET

### Tools

Windows Mac OS X Ubuntu Git SVN Vim Visual Studio Eclipse Zsh

## WORK EXPERIENCE

### Microsoft

*Software Engineer Intern — Windows Performance*


Sep 2013 — Dec 2013  
Redmond, WA

- Analyzed video memory allocations in Windows to enhance performance
- Built new tools to visualize video memory usage from both application/OS-centric perspectives
- Skills: C, C++, C#

### Mozilla

*Software Engineer Intern — Mozilla Labs*

Jan 2013 — Apr 2013  
Mountain View, CA

- Worked in Mozilla Labs team on PDF.js, PDF viewer in Firefox written in JavaScript 
- Proposed and implemented performance enhancements, improving loading time by an order of magnitude
- Added support for PDF annotations
- Skills: HTML, CSS, JavaScript

### Wish.com

*Web Developer Intern*


May 2012 — Aug 2012  
San Francisco, CA

- Implemented user-facing features of Wish
- Set up and managed build system
- Got exposure to and worked on entire web-stack, gaining experience with many technologies used at startups
- Skills: Sass, Require.js, Backbone.js, jQuery, Python, MongoDB, mongoengine, Redis


### Facebook

*Software Engineer Intern — Location Tagging*

Sep 2011 — Dec 2011  
Palo Alto, CA

- Proposed and implemented changes to gather location data from photos leading to a 5X increase in location data, and causing controversy on Reddit and Hacker News 
- Built infrastructure to process and analyze gathered location data
- Built features to expose new location data to users
- Skills: HTML, CSS, JavaScript, PHP, MySQL, Hive

### University of Waterloo

*Research Assistant* 

May 2011 — Aug 2011  
Waterloo, ON

- Built search engine interface on top of Google and Bing to be used in research experiments
- Skills: HTML, CSS, JavaScript, Python

### Facebook

Jan 2011 — Apr 2011

## Software Engineer Intern — Realtime Infrastructure

Palo Alto, CA

- Built system to support load balancing on Facebook's chat servers, significantly reducing number of needed servers
- Ran simulations to stress-test load balancing system
- Skills: PHP, Erlang



## Xtreme Labs

### Mobile Developer Intern

May 2010 — Aug 2010

Toronto, ON

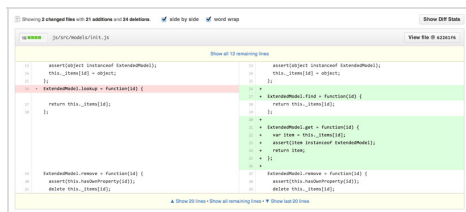
- Developed and maintained several BlackBerry applications for various clients
- Maintained websites for various clients
- Skills: Java, Ruby on Rails



## SIDE PROJECTS

### Github Side-by-Side Diffs [↗](#)

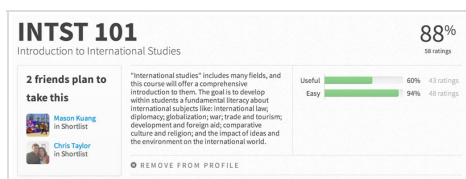
Nov 2013



- Built a Chrome extension that allows improves GitHub's diff viewer
- Supports viewing diffs side-by-side
- Supports showing more context around changes
- Skills: HTML, CSS, JavaScript, React.js, Backbone.js, jQuery

### UW Flow [↗](#)

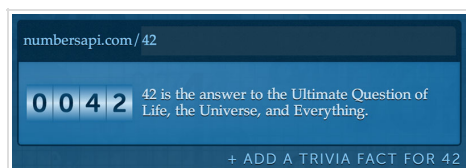
Aug 2012 — Present



- Helping build a service that allows University of Waterloo students see course reviews and ratings
- Currently has over 4000 users and 40000 ratings
- Skills: Sass, Bootstrap, Require.js, Backbone.js, PhantomJS, Python, Flask, MongoDB, mongoose, Redis

### Numbers API [↗](#)

Apr 2011



- Helped build a service for other hackers that gets 20,000 requests per day
- Made the front page of Hacker News [↗](#)
- Skills: Bootstrap, Require.js, Node.js

### JobMine Improved

Jul 2010

- Built a service to provide a more user-friendly interface of searching for jobs on University of Waterloo's job board
- Skills: HTML, CSS, JavaScript, Ruby on Rails

### Discussion Forum

Sept 2009 — Dec 2009

- Built discussion forum for University of Waterloo's IEEE branch
- Skills: HTML, CSS, JavaScript, C#, ASP.NET



## EDUCATION

### Bachelor of Software Engineering — University of Waterloo

Nov 2013 — Present

- Cumulative average of 92.0% [↗](#)



## AWARDS AND ACCOMPLISHMENTS

- **Dean's Honours List** — University of Waterloo
- **President's Scholarship of Distinction** — University of Waterloo
- **Second highest average in school district** [↗](#) — Ottawa-Carleton District School Board

Sep 2009 — Present

Sep 2009

July 2009