



# Mack Duan

 mduan.com 

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 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 React.js Require.js PhantomJS MongoDB mongoengine Redis  
MySQL Hadoop ASP.NET

### Tools

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


## WORK EXPERIENCE

### Microsoft

- Added logging to Windows to track video memory allocations
- Used new logging to build tools to visualize video memory usage

Windows Performance  
Sep 2013 — Dec 2013

### Mozilla

- Worked on PDF.js, PDF viewer in Firefox written in JavaScript 
- Proposed and implemented performance enhancements, improving loading time by an order of magnitude
- Added supported for PDF annotations


Mozilla Labs  
Jan 2013 — Apr 2013

### Wish.com

- Worked on 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

Web Developer  
May 2012 — Aug 2012


### Facebook

- Worked on user-visible changes to gather to gather location data from user content
- 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 
- Worked on back-end changes to process and analyze gathered location data

Software Engineer  
Sep 2011 — Dec 2011

### University of Waterloo

- Built search engine interface to be used in research experiments
- Added tracking code to log user interactions

Research Assistant   
May 2011 — Aug 2011

### Facebook

- Implemented system to support load balancing on Facebook's chat servers, significantly reducing number of needed servers
- Ran simulations to stress test load balancing system

Realtime Infrastructure  
Jan 2011 — Apr 2011

## Xtreme Labs

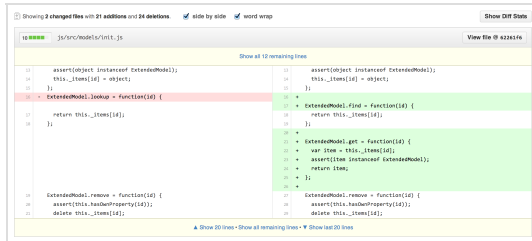
- Developed and maintained several BlackBerry applications for various clients
- Maintained websites for clients

Mobile Developer  
May 2010 — Aug 2010

## PROJECTS

### Github Side-by-Side Diffs [↗](#)

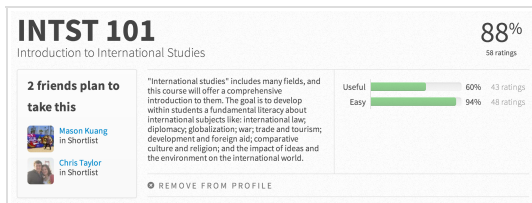
Nov 2013



- Built a Chrome extension that allows improves GitHub's diff viewer
- Supports viewing diffs side-by-side
- Supports showing more context around changes

### UW Flow [↗](#)

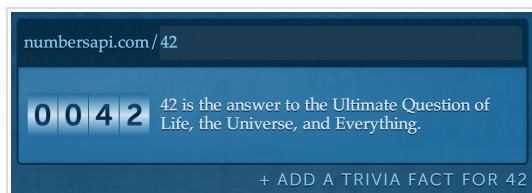
Aug 2012 — Present



- Helping build a service that allows University of Waterloo students see course reviews and ratings
- Currently has over 4000 users and 40000 ratings

### 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 [↗](#)

### 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

### Discussion Forum

Sept 2009 — Dec 2009

- Built discussion forum for University of Waterloo's IEEE branch

## 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

Sept 2009

July 2009