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 | AWS | Git | SVN | Vim | Visual Studio | Eclipse | Zsh

Work Experience

Microsoft — Sep 2013 — Dec 2013
Software Engineer Intern — Windows Performance — 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 — Jan 2013 — Apr 2013
Software Engineeer Intern — Mozilla Labs — 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 — May 2012 — Aug 2012
Web Developer Intern — 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 — Sep 2011 — Dec 2011
Software Engineer Intern — Location Tagging — 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 — May 2011 — Aug 2011
Research Assistant — 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 May 2010 — Aug 2010

Mobile Developer Intern Toronto, ON

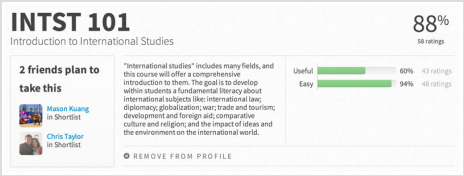
- Developed and maintained several BlackBerry applications for various clients
- Maintained websites for various clients
- Skills: Java, Ruby on Rails

Side Projects

Github Side-by-Side Diffs Nov 2013

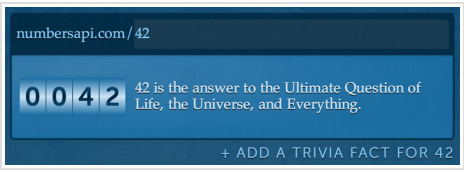
- Built a Chrome extension that allows improves GitHub's diff viewer
- Supports viewing diffs side-by-side
- Supports showing more context around changes
- Skills: HTML, CSS, JavaScript, React.js, Backbone.js, jQuery

UW Flow Aug 2012 — Present



- Co-founded a website that lets university students review and plan courses
- Currently has 4000 users, 40 000 ratings, and 200 000 course searches
- Skills: Sass, Bootstrap, Require.js, Backbone.js, PhantomJS, Python, Flask, MongoDB, mongoengine, Redis

Numbers API Apr 2011



- Built an API for getting interesting number facts 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 Sep 2009 — Present
- **President's Scholarship of Distinction** — University of Waterloo Sep 2009
- **Second highest average in school district** — Ottawa-Carleton District School Board July 2009