

# MACK DUAN

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## SKILLS

### Languages

HTML5 CSS3 JavaScript Python C++ C Scala Java PHP MySQL

### Frameworks

jQuery Backbone.js React.js Meteor Webpack Bootstrap Semantic UI Sass Django  
Flask MongoDB mongoengine Redis Flight.js mustache Node.js Require.js PhantomJS

### Tools

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

## WORK EXPERIENCE

### ⋯ Mixpanel • Software Engineer – Product

Jul 2016 — Aug 2019

- Worked on the product features and infrastructural changes for Mixpanel's message sending capabilities
- Built out product features for the ML team including Signal and Smart Hub
- Built various user-facing features for the Insights and Cohorts reports
- Skills: Mac OS X, Vim, Git, IntelliJ, HTML5, CSS3, JavaScript, Django, Webpack, React.js

### 🐦 Twitter • Software Engineer – Web Client

Jul 2014 — Dec 2015

- Built the redesign of Twitter search UI
- Built component for showing user recommendations in the home timeline
- Built component for showing related tweets on permalink pages
- Built custom search experience for NFL Superbowl
- Skills: Mac OS X, Vim, Git, IntelliJ, Scala, HTML5, CSS3, JavaScript, Flight.js, mustache

### 🇺🇸 Microsoft • Software Engineer Intern – Windows Performance

Sep 2013 — Dec 2013

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

### 🦊 Mozilla • Software Engineer Intern – Mozilla Labs

Jan 2013 — Apr 2013

- Worked on PDF.js, open-source PDF viewer in Firefox written in JavaScript
- Proposed and implemented performance enhancements, improving loading time by an order of magnitude (<https://air.mozilla.org/intern-pdfjs/>)
- Added support for PDF annotations
- Github: <https://github.com/mozilla/pdf.js/commits?author=mduan>
- Skills: Mac OS X, Vim, Zsh, Git, HTML5, CSS3, JavaScript

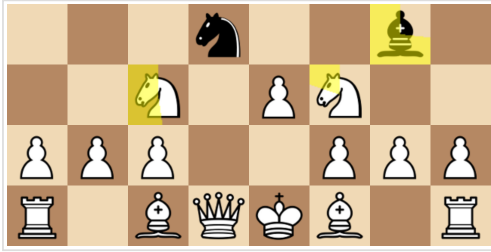
### 📘 Facebook • Software Engineer Intern – Location Tagging

Sep 2011 — Dec 2011

- 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 (<https://news.ycombinator.com/item?id=3377018>)
- Built infrastructure to process and analyze gathered location data
- Built features to expose new location data to users
- Skills: Mac OS X, Vim, Zsh, Git, HTML5, CSS3, JavaScript, PHP, MySQL, Hive

## Real-time Chess (<http://rts-chess.mduan.com>)

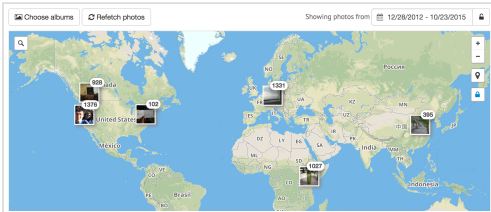
Dec 2015 — Apr 2016



- Built real-time (i.e. not turn-based) variant of chess
- Supports playing computer with various difficulty levels
- Supports playing people over the internet
- Used heuristics to deal with latency and synchronization issues
- Github: <https://github.com/mduan/rts-chess>
- Skills: Mac OS X, Vim, Zsh, Git, HTML5, CSS3, JavaScript, Meteor, Semantic UI, Less

## Photo Map (<http://mduan.com/photos.html>)

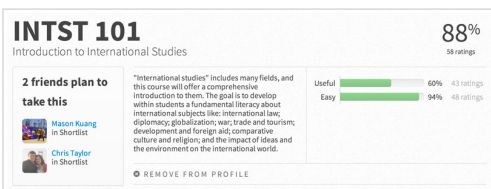
Oct 2015



- Built web app for fetching my geo-tagged Google Photos and showing them on a map
- Various filters such as by album, time range, and location
- Github: <https://github.com/mduan/mduan.com/compare/bf81aa1...00daf31>
- Skills: Mac OS X, Vim, Zsh, Git, HTML5, CSS3, JavaScript, Leaflet.js, IndexedDB, Bootstrap

## UW Flow (<https://uwflow.com/demo>)

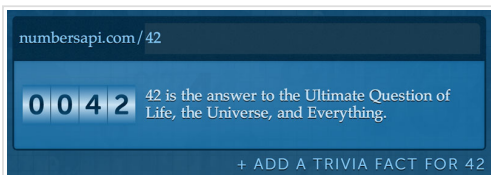
Aug 2012 — Apr 2014



- Co-founded a website that lets university students review and plan courses
- Currently has 9,000 users, 80,000 ratings, and 400,000 course searches
- Github: <https://github.com/UWFlow/rmc/commits?author=mduan>
- Skills: Mac OS X, Vim, Zsh, Git, AWS, HTML5, CSS3, JavaScript, Sass, Bootstrap, Require.js, Backbone.js, PhantomJS, Python, Flask, MongoDB, mongoengine, Redis

## Numbers API (<http://numbersapi.com>)

Apr 2012



- Built an API for getting interesting number facts that gets 20,000 requests per day
- Made the front page of Hacker News (<https://news.ycombinator.com/item?id=3667469>)
- Github: [https://github.com/mduan/numbers\\_api/commits?author=mduan](https://github.com/mduan/numbers_api/commits?author=mduan)
- Skills: Ubuntu, Vim, Zsh, Git, AWS, HTML5, CSS3, JavaScript, Bootstrap, Require.js, Node.js

## EDUCATION

### Bachelor of Software Engineering • University of Waterloo

Sep 2009 — Apr 2014

- Cumulative average of 92.0%

## AWARDS AND ACCOMPLISHMENTS

### With Distinction – Dean's Honours List • University of Waterloo

Sep 2009 — Apr 2014

### President's Scholarship of Distinction • University of Waterloo

Sep 2009

### Second highest average in school district – 98.8% • Ottawa-Carleton District School Board

Jul 2009