

MACK DUAN

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SKILLS

Languages

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

Frameworks

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

Tools

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


WORK EXPERIENCE

 **Robinhood** • *Software Engineer – Web* Dec 2015 — Apr 2016

- Built Chinese version of Robinhood website (<https://www.luobinxia.com>)
- Built signup flow for referral program (<https://robinhood.com/referral/mackd/>)
- Designed and built infrastructure for Webpack and React.js
- Skills: HTML5, CSS3, JavaScript, Django, Webpack, React.js

 **Twitter** • *Software Engineer – Web Client* Aug 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: 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: C, C++, C#

 **Mozilla** • *Software Engineer Intern – Mozilla Labs* Jan 2013 — Apr 2013

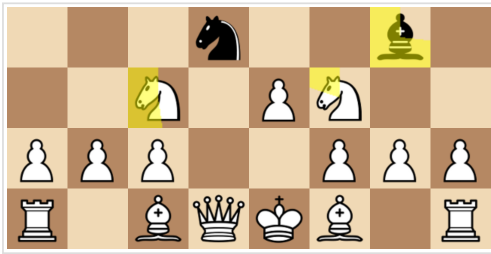
- Worked on PDF.js, open-source PDF viewer in Firefox written in JavaScript
- Proposed and implemented performance enhancements, improving loading time by an order of magnitude (<https://air.mozilla.org/intern-pdfjs/>)
- Added support for PDF annotations
- Github: <https://github.com/mozilla/pdf.js/commits?author=mduan>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

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

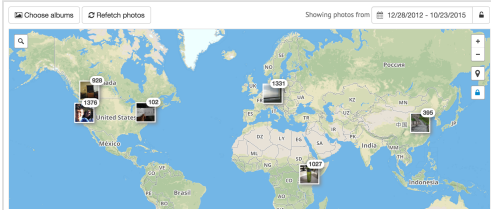
Dec 2015 — Apr 2016



- 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: HTML5, CSS3, JavaScript, Meteor, Semantic UI, Less

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

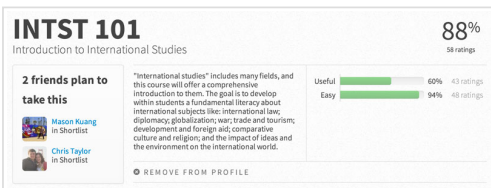
Oct 2015



- 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: HTML5, CSS3, JavaScript, Leaflet.js, IndexedDB, Bootstrap

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

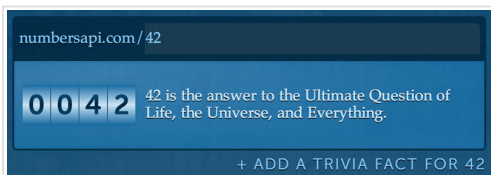
Aug 2012 — Apr 2014



- 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: 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
- Skills: 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