

Joshua Liu

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US Citizen

Skills

Proficient: C++, C, Python, Swift, Ruby, Git, Javascript
Familiar: Go, Perl, Java, HTML5, CSS3, Linux, Bash, OpenCV

Education

University of Waterloo, Candidate for B. Computer Science, **3.9/4.0 GPA**

September 2016 - June 2021 (expected)

- Faculty of Mathematics Dean's Honors List (> 87% average)
- Selected Coursework: Object Oriented Software Development, Data Structures and Data Management, Autonomous Vehicles

Experience

Tapslash, Software Engineering Intern - New York, NY

May 2015 - July 2015

- Joined early stage startup focused on creating a mobile keyboard used to share information.
- Reimplemented several iterations of keyboard predictive suggestions UI in Swift and Objective-C.
- Improved overall keyboard load speeds by **50ms** and memory usage by **32%** (on average).

Projects

Vim2 Text Editor, joshualiu.me/vim2

November 2017

- Built a version the popular **vim** text editor from the ground up with C++ and ncurses.
- Implemented support for macros, syntax highlighting for C and C++ files, regex search, command multipliers, and more.

DuckDuckGo Molar Mass Instant Answer, joshualiu.me/molar_mass

May 2017 - June 2017

- Built an instant answer for the DuckDuckGo search engine that calculates molar masses of chemical compounds for search queries such as "molar mass of H2SO4".
- Implemented query parser and evaluator to calculate the molar masses of chemical compounds.
- Packaged molar mass algorithm in a Perl module, which was merged into DuckDuckGo and is **currently live** and being served **over 2000 times a month**.

Reppin, joshualiu.me/reppin

April 2016

- Created an iOS Application that serves as a virtual personal trainer by using **computer vision** to count repetitions of exercises.
- Developed and implemented a color based **object tracking algorithm** with **OpenCV**, and created custom iOS data analytics UI for displaying exercise data.
- Won 3rd Place out of 100 teams at HackBCA 2016.

Mnemonic, joshualiu.me/mnemonic

April 2017

- Created iOS App and companion IoT wearable that uses **computer vision** and **speech recognition** to serve as an aid for remembering names and faces.
- Developed and deployed Python Flask backend for communicating with iOS application and Raspberry Pi 3 wearable.
- Won Best Internet of Things Hack at HackPrinceton 2017 Spring.

Awards

- **Best Internet of Things Hack**, HackPrinceton 2017 Spring
- **3rd Place**, HackBCA 2016
- **Finalist**, Dream It. Code It. Win It. 2015
- **2nd Place**, HackBCA 2015
- **Best Google Glass Hack**, MHacks 2015 Spring
- **SendGrid Sponsor Award**, HackRU 2014 Fall
- **Microsoft Sponsor Award**, PennApps 2014 Fall