

WORK
EXPERIENCE

Khan Academy Software Engineer
Mountain View, CA June 2014 - Present

Sift Science Software Developer Intern
San Francisco, CA January 2013 - August 2013

- Led the development and design of our user-facing product: fraud visualization dashboard
- Set up the frontend stack consisting of Backbone.js, Marionette.js, Handlebars.js, and others
- Redesigned home page, jobs page, pricing page, blog page; mentored an intern during summer

uwflow.com: social course planning Co-founder
Waterloo, Canada September 2012 - Present

- Side project with two friends. Beta has 3800 users and 50 000 user-submitted ratings
- Worked with Sass, Bootstrap, Require.js, Backbone, Redis, Mongo, Python + Flask, AWS
- Coding, UI design, system administration, A/B testing, emails, pitching, team planning

Khan Academy Software Developer Intern
Mountain View, CA May 2012 - August 2012

- Presented a [TEDx talk](#) on my previous work
- Full-stack data analytics: Apache Hive for data warehousing and Backbone.js and Bootstrap for frontend dashboard
- 3 hackathon projects in 24hrs (all shipped): real-time map of users; 2x video speed; RSS feed
- Independently conceived and wrote continuous integration & deployment tool: github.com/Khan/gae-continuous-deploy
- Organized bike trip from Mountain View to SF; [helped new interns](#); popular [CS hack project](#)

Khan Academy Software Developer Intern
Mountain View, CA August 2011 - December 2011

- Proposed and implemented machine learning model for new proficiency model. Blog post (Hacker News frontpaged): david-hu.com/ka-ml.html
- Increased student proficiencies by 20%, hint usage by 55%, review problem usage by 22%
- Data viz in Python; map reduce scripts; UI design; see david-hu.com/ka-internship-post-mortem.html
- See GitHub commits ([david-hu.com/ka-github.html](https://github.com/davidhu/ka-github)) and [Kiln changesets](#)

University of Waterloo Undergraduate Research Assistant
Waterloo, ON May 2011 - August 2011

- Implemented map reduce algorithms to cluster near-duplicate documents in a web crawl
- Optimized runs for Hadoop running on Amazon Elastic MapReduce

Google Software Intern
Mountain View, CA January - April, 2011

- Designed and implemented a multi-threaded cross-platform automation framework for Google Earth in C++

Google Software Intern - Mobile
 Waterloo, ON May - August, 2010

- Implemented product features for Google Mobile Docs; find workarounds for browser bugs
- Derived cubic Bezier math for emulating native scrolling using CSS 3D transforms - googlemobile.blogspot.com/2010/10/gmail-in-mobile-safari-now-even-more.html
- Optimized speed by exploiting JavaScript implementations and improving data structures

TD Bank Financial Group IT Student Analyst
 Toronto, ON August 2009

- Developed data analysis and report tools; developed automation software saving hours per day

OTHER PROJECTS

- VimAwesome.com: Directory of most popular Vim plugins sourced from GitHub and Vim.org, built with React and RethinkDB.
- NumbersAPI.com: An API for interesting facts about numbers (about 10K requests per day). Blog post: david-hu.com/numapi.html
- Personal blog david-hu.com: 50 000 unique visitors
- Built web apps in Flask + MongoEngine, Rails + Mongoid, App Engine, Node.js + Express, Django + MySQL, C# + ASP.NET
- First place optimizing compiler for university competition
- Artificial intelligence bots: Gomoku, competition Tron, competition Rock-Paper-Scissors
- WEP/WPA penetration-testing GUI application on BackTrack 3
- Designed and implemented a trie-based word-prediction system for an educational toy robot
- MSN plugins: conversation bot, multiplayer display name game
- High school: FIRST Robotics controller, Xbox 360 game, tournament scheduler, automation scripts

UNIVERSITY ACTIVITIES

Entrepreneurial Project Programmer 2010, 2012
 In teams, developed a social course planner (uwflow.com, 2000 registered users); professional [network-building service](#); motivational learning website

ACM Programming Contest Competitor 2009 Fall
 One of 9 students selected to represent U Waterloo. Trained five hours twice per week with teammates on algorithm problems. Rapidly wrote and debugged code during competition; attained 13th out of 115 at East Central North America.

Software Engineering Class Representative 2009 Fall - Present
 Took the initiative to write weekly email updates to the class. Co-founded the "Give Me Your Knowledge" student talks series. Founded course on open-source development (work in progress) - os499.github.com

IEEE Student Branch Member 2009 Fall - Present
 Designed and implemented a mailing system for U Waterloo's IEEE website in ASP.NET and C#.

HIGH SCHOOL ACTIVITIES

Programming Team Leader 2007 - 2009
 Revitalized club: advertised, recruited, taught lessons, organized practices, motivated participants. Achieved top 5 in provincial competition.

FIRST Robotics Team Leader 2008 - 2009
 Facilitated communications, organized meetings, and headed programming team.

Programming Competition Finalist Mar. 2009
 National Bronze Medalist (top 20 in Canada) in the Canadian Computing Competition.

Programming Competition Champion Oct. 2008
Bot coded in Java attained first place in Toronto-area high school AI competition.

Xbox Media Trade Show Presenter Aug. 2007
Invited by Microsoft to present a video game developed using C# in XNA at X07 in Toronto. Was a hit with the blogs: thebbps.com/articles/content/x07-warpong.html

EDUCATION

Candidate for Bachelor of Software Engineering
University of Waterloo 2009 - 2014 (expected)

- Member of the VeloCity start-up incubator (velocity.uwaterloo.ca) for two terms

High School Diploma
Western Technical-Commercial School, Toronto 2009

- Enrolled in the gifted/enriched program; highest average in graduating class (97.5%)

AWARDS

- Math and Engineering Dean's Honour List for all terms, University of Waterloo
- Engineering Faculty Entrance Scholarship, University of Waterloo
- Queen Elizabeth II Aiming for the Top Scholarship
- Governor General's Academic Medal, Western Tech
- Euclid Mathematics Contest School Champion, Western Tech
- McCall Award for Computer Science and Engineering, Western Tech
- Student Recognition Award, Western Tech

INTERESTS

Ping pong, biking, swimming, jogging, camping, reading, free food