

Tristan Hume

Student Developer - University of Waterloo Computer Science

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Work

UWaterloo HCI Lab Undergraduate Researcher, Winter 2016-present

- Designed and developed a hands-free mouse alternative using eye and head tracking that is competitive with the mouse in speed and accuracy.
- Developed high accuracy low-latency audio recognition algorithms for various mouth noises (i.e lip popping). This combines with the previous technique by providing hands-free clicking.

Shopify (Shipping Team) Developer Intern, Summer 2015

- Earned the best possible rating on my work term evaluation for being “one of the most prolific and valuable members of the team”.
- Helped develop [Shopify Shipping](#). I [maintained ActiveShipping](#), fixed production disruptions, and implemented package tracking.
- Owned the front-end and back-end development of the [unified fulfillment and label purchase form](#) now used by thousands of merchants every day.

Shopify (Stack Team) Developer Intern, Summer 2014
Containerized deployment tools with Go, Docker and Chef.

Shopify (Apps Team) Developer Intern, Summer 2013
Ruby on Rails development + Writing a user-friendly parser.

The Eclipse Foundation High-school Co-op Developer, Fall 2012
Implementing features and fixing bugs in the Eclipse IDE.

Halogen Software Student Software Developer, Summer 2012
Web accessibility + automated a 2 week process to 5 minutes.

Projects

- [Crushing the Wikipedia link graph](#) into a 600MB binary file with a custom format designed for [fast path finding in memory](#).
- [An IOS app](#) for long term personal finance simulation and visualization with 7000 users.
- An LLVM-based [compiler](#) and Qt-based IDE for [Turing](#).
- Designing, assembling, wiring and programming [my keyboard](#).
- [An implementation](#) of a webcam pupil tracking algorithm in OpenCV that garners near-weekly emails from researchers.
- Being the [first contributor](#) and long time top contributor to [Spacemacs](#). I contributed many of the first layers and fixes.

Plus a financial data exploration [web app](#), [a blog](#), an [election game](#), [two other IOS apps](#), a [git repo manager](#), a chess engine, a [converter](#) from PNGs to mathematical functions for graphing, a [project](#) which made the Reddit frontpage, a [face tracking hack](#), a [Turing interpreter in Turing](#) and many more...



About

I'm a UWaterloo CS student who's been working as a developer for 5 years and programming for 10. I'm particularly interested in computer vision, compilers, and finance. My many open source projects have over 20,000 combined users (300,000 if you count web apps).

Reading

For the past 8 years I've spent on average 2 hours per day reading about programming and technology. That adds up to 3 times the number of lecture hours in a CS degree. I've read hundreds of academic papers (mostly on HCI, compilers, computer vision, and databases), thousands of articles (largely from 5 years of [Hacker News](#)), and dozens of programming books.

Anecdotal Evidence

At Shopify I was one of two interns (out of hundreds in the past) to get a significant unsolicited raise to the pay level of a full time employee, as well as stock options, in the middle of my co-op term.

Languages Used

I love trying new language so I've used a lot of them:

10,000+ lines written

Ruby, C++, Javascript

5,000-10,000 lines

Objective-C, Java, Turing, HTML, CSS, PHP

1,000-5,000 lines

Go, Emacs Lisp, Racket, Python, D, Lua

500-1,000 lines

Haskell, Rust, Nim, Bash, Scala

250-500 lines

Nix, Julia, Haxe, Actionscript