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 that combines the speed of eye tracking and the accuracy of head tracking using MAGIC.
- Developed high accuracy low-latency audio recognition algorithms for using various mouth noises (e.g lip popping) to perform actions like clicking.
- Combined knowledge from reading hundreds of academic papers on HCI techniques and eye tracking computer vision algorithms to develop an enjoyable to use system with speed and accuracy similar to a trackpad.

Shopify (Shipping Team)
Developer Intern, Summer 2015

- 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.
- Held the responsibilities and compensation of a full-time developer.
- Earned the best possible score on my performance review.

Shopify (Stack Team)
Developer Intern, Summer 2014

Containerized deployment tools with Go, Docker and Chef.

Shopify (Apps Team)
Developer Intern, Summer 2013

Worked on Ruby on Rails projects and a new parser for Liquid.

The Eclipse Foundation
High-school Co-op Developer, Fall 2012

Implemented features and fixed bugs in the Eclipse IDE.

Halogen Software
Student Software Developer, Summer 2012

Investigated web accessibility and automated a data entry process.

About

I'm a highly passionate developer who has spent the last 10 years building dozens of projects using a large variety of languages and technologies. I'm also building a solid academic groundwork through my studies as a CS student, research work, and spending lots of my spare time reading.

Open Source

I've created dozens of open source projects with over 20,000 combined users (300,000 if you count web apps), all of which you can find on my Github page.

I was also the first contributor and long time top contributor to Spacemacs, a now quite popular configuration package for Emacs.

Languages Used

My strongest languages are Ruby, C++ and Javascript. I've written over 10,000 lines of code in each of these languages.

I also enjoy learning new languages: I've done projects in 22 different languages including Haskell, Rust, D, Go, and Scala.

Selected Projects

Rate With Science
I extracted the link graph of Wikipedia into a 600MB binary file with a custom format designed for fast path finding in memory. I've rewritten the path-finding server in Rust, Nim and D for fun.

StashLine
An IOS app for long term personal finance simulation with 7000 users. Has a custom built UI that instantly updates a visualization of your entire life's financial future while you manipulate inputs.

The Open Turing Compiler
An LLVM based compiler for Turing as well as a Qt-based IDE and a simple drawing library.

PolyType
I built a working keyboard I designed in AutoCAD and put together with laser cut acrylic layers, Cherry MX switches, lots of soldering, and an ARM microcontroller.

IndexView
An exploration tool for long term financial market data written in JavaScript with a custom canvas graph widget allowing for fluid zooming and navigation of hundreds of years of data with live stats.