

# David Pagurek van Mossel

University of Waterloo Software Engineering

## Work

Software Developer Intern at [Athos](#) Redwood City, USA, January-April 2016

- Created a C++ library for creating signal processing pipelines by parsing a JSON-based language definition into a tree of filters, allowing variable scoping and mapping over lists
- Developed infrastructure and UI features in Objective C and Swift to allow users to run through exercise training plans and receive a score calculated from garment sensor data

Software Developer Intern at [Shopify](#) Ottawa, Canada, May-August 2015

- Developed Ruby scripts to transform and load sales data from sharded MySQL databases into central MySQL and Postgres databases on Amazon Web Services
- Introduced new language constructs in the Shopify Query Language parser allowing granular querying of data in Go and Ruby
- Awarded finalist in Shopify Hack Days with an iOS app version of the Shopify home feed in React Native

## Projects

[Axis](#), winner of Waterloo EngHack Winter 2015

A webapp for making digital flipbooks using keyframed animation

- Created a stickman with draggable joints to pose the puppet in Paper.js
- Developed algorithms to automatically interpolate frames between key poses for stickmen on the canvas
- Built a site in Perl and Mojolicious to share exported gifs and fork existing animations

[Scala compiler](#), made for CS241E, 2015

A tool written in Scala to compile a subset of Scala into MIPS instructions

- Parsed input into an AST for the Scala grammar to compile
- Implemented closures, tail recursion, type checking, and garbage collection

[Pluto](#), 2015

A home automation system and control panel for the Raspberry Pi

- Engineered a mobile-first house control panel and remote using Node/Express and test-driven development practices
- Constructed music playlists based on who is in the house by having users tap an NFC tag on an Android phone to sign in or out

## Leadership Experience

- Organizer, [Tech Retreat](#), a hackathon for high school students, 2015-16
- Organizer, [TerribleHack I and II](#), a hackathon for programming for its own sake rather than for a practical purpose, 2015-16

## About

Programmer, web developer, digital artist, and Regular Expression enthusiast

- dave@davepagurek.com
- [davepagurek.com](http://davepagurek.com)
- [github.com/davepagurek](https://github.com/davepagurek)
- (613) 875-4951

## Skills

- Demonstrated expertise with **HTML**, **(S)CSS**, and **JavaScript** (including **Node**, **Express**, **Underscore** and **JQuery**)
- Extensive experience with **Git**, **Ruby**, **C++**, **Scala**, **Perl 6**, **Python**, **Swift**, **Linux**, **SQL**, and **Apache**
- Passion for creative approaches to visual and algorithmic design problems
- Highly proficient with Adobe CS4+ for design and animation
- Enthusiastic, self-motivated learner and active team leader and contributor

## Awards

- University of Waterloo President's Scholarship, 2014
- Top 25% distinction on the Canadian Computing Competition, senior division, 2013 - 2014
- Jerry Dermer Memorial Prize in Engineering, 2014
- Ottawa-Carleton District School Board Silver Medal, 2010-2014