Elias Mulhall

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Technical Skills

Languages Proficiency with Typescript, Javascript, Ruby, Elm
Experience with OCaml, Go, Scheme, Java, Python, Clojure, PHP

Frameworks Ruby on Rails, React, React Native, Backbone Marionette, Sinatra

Tools & Platforms Linux, Git, Vim, SQL, RESTful APIs, LaTeX, HTML/CSS, Heroku, Pivotal Cloud Foundry

Experience

Software Developer, MojoTech — *Providence, RI*

Provide software consulting and development services as part of MojoTech's in-house engineering team. — *Summer 2016 - Present*

- Implement robust 12-factor web applications to address difficult problems across a variety of industries.
- Engage in regular client communication, including daily stand-ups and short, deliverable-focused sprint cycles.
- Apply both rigorous testing and advanced functional programming techniques to ensure software quality and stability.

Intern Software Developer, eHealth Data Solutions — *Yellow Springs, OH*

Built and tested web-based analytical applications for the post-acute healthcare industry. — *Summer 2014, Summer & Winter 2013*

- Used PHP, test driven development with PHPUnit, and acceptance test-driven development with Cucumber and Ruby.
- Updated legacy codebase to follow company best practice Cucumber/Ruby integration testing.

Research Assistant, University of Massachusetts Amherst — *Amherst, MA*

Researched domain specific languages for declarative control of network routing with Prof. Arjun Guha. — *Summer 2015*

- Implemented a new compiler algorithm for the NetKAT software driven networking language, utilizing the OpenFlow 3 network standard to produce more compact and flexible compiled network switch instructions.
- Leveraged the OpenFlow 3 compiler to develop high-level language abstractions for configuring load balancing and fault tolerant networks.

MIST Educational Web Environment Independent Study, Grinnell College — *Grinnell, IA*

Developed a toolset for learning functional programming through art with Prof. Samuel Rebelsky. — *Spring 2015*

- Worked in existing Node.js code base for the Mathematical Image Synthesis Toolkit (MIST), a domain specific language and integrated web environment for creating visual art by means of simple function composition.
- Designed and implemented the MIST web API, in order to meet the interfacing needs of the MIST mobile app development team.

Software Foundations Guided Reading, Grinnell College — *Grinnell, IA*

Studied formal software verification and programming language theory with Prof. Peter-Michael Osera. — *Spring 2016*

- Read and discussed *Software Foundations* by Pierce et al. and worked through exercises using the Coq proof assistant.
- Used Coq to verify Theorems 2.1.1 and 2.1.2 of Peter-Michael Osera's dissertation *Programming Synthesis with Types*.

Education

Grinnell College — *Grinnell, Iowa*

Bachelor of Arts in Computer Science, 3.7 Major GPA — *2012 - 2016*

- Dean's List, Fall 2015
- PLMW at ICFP Travel Scholarship, Aug. 2015