

EDUCATION	Doctor of Philosophy 2020 in Programming Languages Adviser: Robby Findler Northwestern University, Chicago IL McCormick School of Engineering	Bachelor of Science 2015 in Computer Science 2015 Northeastern University, Boston MA College of Computer and Information Science (CCIS)
WORK EXPERIENCE	Research Assistant EECS - Northwestern University, Evanston IL	May 2015 - Present
	<ul style="list-style-type: none">Continued design on a Clinician Programming Language from previous research.Created of a calculus for the language Esterel.	
	Research Assistant EECS - Northwestern University, Evanston IL	May 2014 - Dec 2014
	<ul style="list-style-type: none">Initial design of an end-user programming language for Clinicians for use in Hospital.Designed and gave a user study to evaluate the initial design of the language.	
	Software Developer TripAdvisor - Newton MA	July 2013 - Dec. 2013
	<ul style="list-style-type: none">Implemented various features for the Vacation Rentals product.Developed testing framework for using in-memory databases without spinning up a full backend.	
	Software Developer Verivo Software - Waltham MA	July 2012 - Dec. 2012
	<ul style="list-style-type: none">Helped deploy a new Continuous Integration system for the development team.Designed and implemented API for database interface layer of product.	
	Lab Administrator CCIS Systems - Northeastern University, Boston MA	May 2011 - May 2012
	<ul style="list-style-type: none">Hired, trained, and managed proctors for the main public lab.Maintained all lab machines and building printers.	
	Experimental Systems Group (Crew) CCIS Systems - Northeastern University, Boston MA	Sept. 2010 - 2014
	<ul style="list-style-type: none">Researched possible cloud computing options for Systems in a team.Designed and taught a course on basic usage of Linux.	
TECHNOLOGIES & LANGUAGES	Proficient Racket, Java, Esterel Some Experience Rust, Bash, JavaScript, Bash, HTML/CSS, C, C++ , Haskell, Scala, Git, SVN, CVS, Emacs, Vim, Eclipse, IntelliJ, GNUmake	
SELECTED PROJECTS	Esterel Calculus (https://github.com/florence/esterel-calculus) My thesis work on the Language Esterel. This project involved maintaining a large multi-language code base of about 30,000 lines between three researchers, which implemented several models of the languages, as well as compilers between each version. To ensure correctness of this codebase I used many verification techniques such as property-based testing , dependent types , generative testing , and unit testing . It consisted of diverse technologies ranging from Agda proofs and compilers written in Racket, to Jupyter Notebooks . Implementation of this	

project required familiarity within **Synchronous Reactive Programming** and **Sequential Circuits**.

Patient-Oriented Prescription Programming Language (POP-PL)
(<https://github.com/florence/pop-pl>)

This project is the design and implementation of an end-user programming language for Clinicians. In its design I used many techniques necessary in designing for UX such as **User surveys** and **Contextual Inquiry**. I learned about the **medical** domain and **hospital operations** create a language that met the clinicians needs.

Cover (<https://github.com/florence/cover>)

A **open-source** project-wide **code coverage** tool for **Racket** written with one other developer. It consists of a **code annotator** and **compiler extension** which instrument programs for coverage. I have maintained this project for 4 years, as well as its integration in to **TravisCI**, and the coverage services **CodeCov** and **Coveralls**. Implementing this tool also involved extending and taking on maintenance of Racket's existing code annotator framework.

Lindenmayer (<https://github.com/rfindler/lindenmayer>)

I worked with a team of four other researchers to create a language for drawing 2D and 3D **Lindenmayer systems** (L-systems). L-Systems are use for modeling Biological systems and have applications in **3D graphics**, which I implemented for this project.

BOOK

PUBLICATIONS

Matthias Felleisen, David Van Horn, Conrad Barski, Forrest Bice, Rose DeMaio, **Spencer P. Florence**, Feng-Yun Mimi Lin, Scott Lindeman, Nicole Nussbaum, Eric Peterson, Ryan Plessner. Realm of Racket: Learn to Program, One Game at a Time! *No Starch Press 2013*

PAPER

PUBLICATIONS

Spencer P. Florence, Shu-Hung You, Jesse A. Tov, Robert Bruce Findler A Calculus for Esterel. In *Proceedings of the ACM on Programming Languages (PACMPL)*, *Principles of Programming Languages (POPL) 2019*

Spencer P. Florence, Burke Fetscher, Matthew Flatt, William Temps, Vincent St-Amour, Tinatin Kiguradze, Dennis West, Charlotte Niznik, Paul Yarnold, Robert Bruce Findler, Steven Belknap. POP-PL: A Patient-Oriented Prescription Programming Language. In *Transactions on Programming Languages and Systems (TOPLAS) 2018*

Vincent St-Amour, Dan Feltey, **Spencer P. Florence**, Shu-Hung You, Robert Bruce Findler Herbarium Racketensis: A Stroll through the Woods (Functional Pearl). In *Proc. International Conference on Functional Programming (ICFP) 2017*

Dan Feltey, **Spencer P. Florence**, Tim Knutson, Vincent St-Amour, Ryan Culpepper, Matthew Flatt, Robert Bruce Findler, Matthias Felleisen. Languages the Racket Way: 2016 Language Workbench Challenge. In *Language Workbench Challenge (LWC) 2016*

Spencer P. Florence, Burke Fetscher, Matthew Flatt, William Temps, Tinatin Kiguradze, Dennis West, Charlotte Niznik, Paul Yarnold, Robert Bruce Findler, Steven Belknap. POP-PL: A Patient-Oriented Prescription Programming Language. In *Proc. International Conference on Generative Programming: Concepts & Experience (GPCE) 2015*

PROFESSIONAL & SERVICE ACTIVITIES **Program Committee** DSLDI 2018
 Student Volunteer Chair ICFP 2018, ICFP 2019
 Student Volunteer ECOOP 2015, SPLASH 2015, SPLASH 2018

LEADERSHIP EXPERIENCE **Student Volunteer Chair** at ICFP 2018, ICFP 2019
 I was in charge of selecting and managing the volunteers who staffed these week-long conferences.

Lab Administrator for CCIS System, May 2011 - May 2012
 I was in charge of hiring and managing our lab proctors, as well as making sure necessary lab maintenance was notice and carried out.

INTERESTS Building wire sculptures, board & video games, game design, physics, history