

Spencer P. Florence

<http://spencerflorence.com>
spencer.florence@eecs.northwestern.edu

EDUCATION	Doctor of Philosophy 2020 in Computer Science Programming Languages Northwestern University, Evanston IL	Bachelor of Science 2015 in Computer Science Northeastern University, Boston MA
WORK EXPERIENCE	Computer Science Department - Northwestern University, Evanston IL	
	Research Assistant	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	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.	
	TripAdvisor - Newton MA	
	Software Developer	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.	
	Verivo Software - Waltham MA	
	Software Developer	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.	
TECHNOLOGIES & LANGUAGES	Proficient	Racket, Java, Esterel
	Some Experience	Rust, 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. Implemented and Maintained a large multi-language code base of about 30,000 lines between three researchers. Used many verification techniques such as property-based testing , dependent types , generative testing , and unit testing , to ensure correctness of the codebase. Implemented in a 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) Design and Implementation of an end-user programming language for Clinicians. Used many techniques necessary in designing for UX such as User surveys and Contextual Inquiry . Investigated the medical domain and hospital operations create a language that met the clinicians needs.	
	Cover (https://github.com/florence/cover) An open-source project-wide code coverage tool for Racket written with one other developer. Consists of a code annotator and compiler extension which	

instrument programs for coverage. Maintained this project for 5 years. Integration the tool in to **TravisCI**, and the coverage services **CodeCov** and **Coveralls**. Extending and maintaining Racket's existing code annotator framework.

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

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**.

**LEADERSHIP
EXPERIENCE**

Student Volunteer Chair at ICFP 2018, ICFP 2019

Selected and Managed the volunteers who staffed these week-long conferences.

Lab Administrator for CCIS System, May 2011 - May 2012

Hired and Managed our lab proctors, as well ensured necessary lab maintenance was noticed and carried out.

INTERESTS

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