

## Daniel Patterson

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**SUMMARY** Software engineer with industrial experience building backends to web applications and research experience in programming languages.

**INDUSTRY EXPERIENCE** *Founder, Position Development - Haskell, Ruby* 2014-Present  
Media, Publishing, Non-Profits

- Founded consulting business (positiondev.com) doing web development in Haskell and Ruby. Built ecommerce stores, subscription systems, paywalls, mailing lists. Clients include The Criterion Collection, Verso Books, Jacobin Magazine, among others. Client list built from freelancing going back to 2011.

*Contractor - OCaml, Amazon AWS* Spring 2015  
Cloud Orchestration - Inhabited Type

- Built foundational libraries and implementations for a declarative language-based cloud orchestration startup. Wrote auto-generated Amazon AWS APIs for OCaml as well as parts of prototype product.

*Lead Developer - Haskell, Snap, Postgresql, Redis.* 2014  
Research Project - Northwestern University

- Interactive tool for people 70+ to plan their lives, as part of a research study.

**RESEARCH EXPERIENCE** *Developer - CaptainTeach* Summer 2013  
Online IDE and Prototype Education Platform

- Built an online IDE for programming assignments, built on top of the Pyret Programming Language, with multi-stage assignments and interactive material.

*Codesigner - Pyret Programming Language - pyret.org.* 2012-2013  
Language Design

- Helped design an education focused programming language at Brown University. Was partly or fully responsible for all of the core language features.

*Research Assistant - Planar Graph Algorithm Implementations* Summer 2012

- Developed a framework to make writing divide and conquer algorithms on planar graphs easier to write, and contributed to larger library effort.

**TEACHING EXPERIENCE**

- Head TA for *Probability and Computation* (CS155), an upper level undergraduate course on probabilistic algorithms.
- Assisted with *Programming Languages Lab* (CS1729), a half credit advanced portion of programming languages course.
- Contributed examples and exercises for text used in *Coding the Matrix* (CS53 and on Coursera).

**ACADEMIC PUBLICATIONS** *CaptainTeach: Multi-Stage, In-Flow Peer Review for Programming Assignments.*  
• Joe Gibbs Politz, Daniel Patterson, Kathi Fisler, and Shriram Krishnamurthi. ITiCSE 2014.

*Python: The Full Monty - A Tested Semantics for the Python Programming Language.*  
• Joe Gibbs Politz, Alejandro Martinez, Matthew Milano, Sumner Warren, Daniel Patterson, Junsong Li, Anand Chitipothu, and Shriram Krishnamurthi. OOP-SLA 2013.

**SKILLS** *Haskell, SQL, Ruby, Python, OCaml, C, C++, x86, Linux, Git.*

**EDUCATION** *Bachelor of Science, Math and Computer Science*  
Brown University, Providence RI