Ambrose Bonnaire-Sergeant *Last update on August 15, 2018*

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Summary

Programming language tooling developer, bringing academia to the masses.

I love delivering tools and lessons from academia to working programmers. My work in building optional type systems has been incredibly rewarding, and fulfills a need of mine to make a real impact on other people's lives.

My work on Typed Clojure is indicative of my approach. I created the optional type system for Clojure in 2011. Each subsequent year has taken a new direction based on the feedback of the community, using my expertise to match solutions to problems.

I love the communicating and marketing ideas. It is both rewarding and challenging. I have orchestrated crowdfunding campaigns that have collectively raised over $50,000 to support my goals in open source development—supported by companies like Cognitect, Walmart Labs, Prismatic, and CircleCI.

I have given many talks in industry and academic conferences, including Strangeloop, Clojure Conj, Philly ETE, Lambda Jam Brisbane, Code Mesh, ESOP, and the International Lisp Conference. I also enjoy talking at local Clojure user groups.

Experience

Research Assistant — Indiana University Bloomington

Advisor: Sam Tobin-Hochstadt *Fall 2014 — Summer 2015, Spring 2016 — Fall 2016, Summer 2018 —*

We have worked to formalise and publish a paper on the fundamentals of Typed Clojure. We are also working towards extending Typed Clojure with gradual typing. More recently, we are developing a framework to infer type annotations for optional type systems based on runtime instrumentation.

Assistant Instructor — Indiana University Bloomington

Instructors: Sam Tobin-Hochstadt, Suzanne Menzel, Chung-chieh Shan *Fall 2015, Fall 2016 — Spring 2018*

Taught undergraduates C211, an introductory programming language course based on How To Design Programs. Also C343, introductory data structures. Conducted labs and office hours.

Software Intern — Sparkfund

May 2017 — Febuary 2018

Studied verification techniques used in practice (Clojure).

Google Summer of Code — Clojure organisation

Student	*2012, 2013*
Mentor	*2014 (3 students), 2015 (2 students)*
Administrator	*2014, 2015*

Crowdfunded Open Source work — Perth, Western Australia

Typed Clojure	*2013*
Gradual Typing for Clojure	*2015*
Automatic Annotations for Typed Clojure and clojure.spec	*2016*

Analyst Programmer — University of Western Australia 2010 — 2011

I worked with the UWA library staff to gather information on the format and location of various University research data sources, and set up VIVO semantic web software. I used Java, XSLT, and bash, and administered several Linux machines.

Education

Indiana University Bloomington	Bloomington, Indiana
Computer Science PhD candidate (In progress)	*Fall 2014 —*
Indiana University Bloomington	Bloomington, Indiana
Master of Science in Computer Science	*2014 — 2017*
University of Western Australia	Western Australia, Australia
BSc in Computer Science with Honours	*2008 — 2013*

Publications

Practical Optional Types for Clojure (ESOP16)   WITH ROWAN DAVIES, SAM TOBIN-HOCHSTADT

A Practical Optional Type System for Clojure (Honours dissertation)   SUPERVISED BY ROWAN DAVIES

Selected Open Source Contributions

core.typed   LEAD DEVELOPER

core.match   CONTRIBUTOR

Clojure   CONTRIBUTOR

Selected Talks

Typed Clojure: From Optional to Gradual Typing (Video)   STRANGELOOP 2015

Typed Clojure in Practice (Video)   STRANGELOOP 2014

Practical Optional Types for Clojure (Slides)   ESOP 2016

Introduction to Logic Programming (Video)   CLOJURE CONJ 2011

Skills

Technical expertise: Experienced with open source development and maintenance, including Git, GitHub, and continuous integration. Enjoys building static and dynamic program verification tools for dynamically typed languages. Experienced Clojure programmer. Some experience in Java, C, Racket, and Scheme.

Personal

Interests
   Singing, guitar, clarinet, reading, teaching.