

# Leandro Facchinetti

## Résumé

<https://leafac.com>  
resume@leafac.com  
Portugal (available to relocate)

### EDUCATION

**PhD Candidate.** Johns Hopkins University. Computer Science. Programming Languages. Advisor Dr. Scott Smith. 2014-09 - 2020-07.

**Master's Degree.** Johns Hopkins University. Computer Science. 2014-09 - 2016-10.

**Bachelor's Degree.** *Universidade de São Paulo*. Computer Science. 2008-02 - 2012-09.

### SELECTED WORK EXPERIENCE

**CourseLore.** Web Developer & Designer. 2021-01 - Present.

- CourseLore is an open-source student forum.
- Sole developer & designer working on all parts of the web stack, from the database and the backend to visual design and the frontend.
- Extracted several open-source libraries from the project, for example, `caxa` and `@leafac/sqlite`.
- Engineered the application to make it as straightforward as possible to self-host, even by non-technical people.

**Johns Hopkins University.** Research Assistant. 2014-09 - 2020-07.

- Part of the PhD program.
- Co-authored papers that were published in leading venues, for example, the *ACM Transactions on Programming Languages and Systems (TOPLAS)*.
- Did a qualifying project in the field of cryptography advised by Dr. Matthew D. Green and Dr. J. Ayo Akinyele.
- Did research on programming languages, in the field of program analysis, developing new techniques for control-flow analysis of higher-order functions.
- Goal as researcher: To communicate technical ideas as clearly as possible to software developers in industry, avoiding jargon, obscure notation, and unnecessary complexity.
- Was the system administrator for the laboratory for 5 years.

**DasDad.** Software Developer. 2013-02 - 2013-12.

- DasDad was a product start-up. Unfortunately the angel investor behind it folded and the product wasn't released.
- Contributed to backend services in Ruby and Java, and to a frontend application in Ruby on Rails.
- The applications used natural language processing and artificial intelligence for recommendation, summarization, and sentiment analysis.
- Worked on infrastructure, implementing systems for continuous integration and continuous delivery.
- Helped to manage outreach activities for the local programming community including hackathons and coding dojos.

### SELECTED TEACHING EXPERIENCE

**Instructor.** Johns Hopkins University. Object-Oriented Software Engineering. 2019-08 - 2019-12.

- Course website: [leafac.com/7](https://leafac.com/7).
- Updated the curriculum and developed new material, including video lectures [[leafac.com/8](https://leafac.com/8)].
- Goal as educator: To build students' confidence.
- One of the biggest courses in the department, with 85 students.
- Managed a team of 15 course assistants.
- Developed a robot to assist on course administration, including grading, surveying students for course feedback, and so forth [[leafac.com/9](https://leafac.com/9)].
- Students rated the course around the department average, and some said it was the best course they ever took [[leafac.com/10](https://leafac.com/10)].

## SELECTED PUBLICATIONS

**A Set-Based Context Model for Program Analysis.** Leandro Facchinetti, Zachary Palmer, Scott Smith, Ke Wu, and Ayaka Yorihiro. *The 18th Asian Symposium on Programming Languages and Systems (APLAS)*. 2020. [PDF: leafac.com/44] [Publisher: leafac.com/45]

**Higher-Order Demand-Driven Program Analysis.** Leandro Facchinetti, Zachary Palmer, and Scott Smith. *ACM Transactions on Programming Languages and Systems (TOPLAS)*. 2019. [PDF: leafac.com/19] [Publisher: leafac.com/20]

**Relative Store Fragments for Singleton Abstraction.** Leandro Facchinetti, Zachary Palmer, and Scott Smith. *24th Static Analysis Symposium*. 2017. [PDF: leafac.com/22] [Publisher: leafac.com/23]

**Higher-Order Demand-Driven Program Analysis (Artifact).** Leandro Facchinetti, Zachary Palmer, and Scott Smith. *ECOOP 2016 Artifacts*. Also appeared at the *Dagstuhl Artifacts Series*. 2016. [PDF: leafac.com/27] [Code: leafac.com/28] [Publisher: leafac.com/29]

**What is Your Function? Static Pattern Matching on Function Behavior.** Leandro Facchinetti, Pottayil Harisanker Menon, Zachary Palmer, Alexander Rozenshteyn, and Scott Smith. *The 17th Symposium on Trends in Functional Programming (TFP 2016)*. 2016. [PDF: leafac.com/30]

## AWARDS

**Whiting School of Engineering's Professor Joel Dean Excellence in Teaching Award.**  
2019-05-06.

## SELECTED PERSONAL PROJECTS

**YouTube Channel.** Videos about programming: live-coding sessions and code reviews covering audio/video applications, programming languages, web applications, and so forth. [leafac.com/46]

**Kill the Newsletter!** Convert email newsletters into Atom feeds. Featured on Lifehacker, Hacker News (twice), Product Hunt, and several blogs around the world. [leafac.com/34]

**caxa.** Package Node.js applications into executable binaries. [leafac.com/49]

**Roboose.** GitHub Probot that assists on managing a course using GitHub for forum, assignments, grading, and so forth. [leafac.com/38]

**Contributions to JavaScript & TypeScript projects.** xmlbuilder2, DefinitelyTyped, Visual Studio Code LaTeX Workshop Extension, and Gatsby.

**Contributions to Web Frameworks.** Ruby on Rails, and Javalin.

## REFERENCES

**Dr. Scott Smith.** Full Professor. Johns Hopkins University. Former PhD advisor. scott@cs.jhu.edu

**Dr. Matthew D. Green.** Associate Professor. Johns Hopkins University. Former project advisor. mgreen@cs.jhu.edu

**Dr. Zachary Palmer.** Assistant Professor. Swarthmore College. Former research collaborator. zachary.palmer@swarthmore.edu