

Sean Miller

Lead Engineer / Solver of Problems

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<https://thewanderingcoder.com/>

I eat impossible code problems for breakfast, leaving concise and well-tested code in my wake. I've been developing software professionally since 1998, from web apps of academic corpora through enterprise Java applications. Since 2007 I've mostly worked on, led, and rescued several Rails projects, with gap years in Python and Clojure, and I've done detailed technical reviews of PragProg's *The Cucumber Book* and *Rails 5 Test Prescriptions*, and, most recently, David Copeland's *Sustainable Web Development with Ruby on Rails*.

Staff Engineer / Team Lead, Reify Health, Boston (remote)

January–December 2022

- Led project to implement a finer-grained authorization system, a key step in making the codebases more modular and composable, from choice of technology to test deployment to production.
- Managed team (in multiple directions) to produce the best possible experience.
- Skills/Tools: SpiceDB implementation/adaptation of Google Zanzibar protocol, Clojure (enough to review team PRs intelligently), improving team dynamics and resolving conflicts.

Principal Engineer, Tucows, Toronto

August 2020–January 2022

- Re-architected parts of a Rails app under tight deadlines caused by external acquisition.
- Ran data modelling and process / workflow modelling discussions relating to the longer-term consolidation / harmonization of the two companies' offerings.
- Curated one of the new codebases to be more discoverable, flexible, testable and evolvable.
- Mentored and levelled up other team members with ensemble and pair coding sessions.
- Skills/Tools: Ruby, Rails, data modelling, workflow modelling, event-driven architectures (using Kafka and Avro Schema), re-architecting into and building more sustainable/evolvable codebases, ensemble and pair coding for knowledge transfer (of domain, code, and twenty-three years' engineering practice).

Staff Engineer, LendingHome, San Francisco (remote)

December 2018–April 2020

- Fixing legacy architecture: Implemented the ops/consumer split – we had an internal user-facing web app (ops) and an external user-facing one (consumer), ops had grown out of consumer and relied on consumer instead of both of them relying on what became gems/core, where we put the common code.
- Experimental architecture: Introduced event storming, to better consolidate and codify knowledge of what the system should do, and started experiments with event-driven architecture to enable it to do it better.
- Mission critical work: Built an internal replacement for the mission-critical pdf merge data and collate templates functionality that an external vendor was end-of-lifing, avoiding the monthly rate-limiting errors that hobbled us in the very busy end-of-month with the previous solution. (Comment from a colleague: “he did the work of three people on that project”)
- Internal tools: Co-ran the internal tools team, which involved listening to our internal users and building a better experience for them with targeted changes and a very short feedback loop.
- Skills/Tools: Rails (including 4 to 5 upgrade),RSpec, event storming (for requirements gathering), event-driven architectures, large-scale refactoring and re-architecting, working closely with non-engineers, build-vs-buy decisions, Ruby pdf libraries (landed on HexaPDF after evaluating multiple options), pushing tests down to the lowest/fastest sensible level.

Senior Engineer, FreshBooks, Toronto**February–November 2018**

- Brought in to consult / provide technical vision for QA and testing practices at a mostly-Python shop. With over a dozen services, this was a very different test and deploy environment.
- Acted as a senior internal consultant on testing and metrics, doing glue work (going to meetings and identifying people who should be talking about parallel projects but weren't), encouraging uptake of the then-new book *Accelerate* (and spiking scraping scripts to answer some of the questions it raises).
- Skills/Tools: Python, Behave (effectively, Python's Cucumber equivalent for BDD), Omnigraffle (for presentations), conducting data-gathering internal interviews and giving presentations to different of audiences, working closely with non-engineers, pushing tests down to the lowest/fastest sensible level.

Senior Engineer, Optoro, Washington D.C. (remote)**March 2015–January 2018**

- 2015: Led effort to build OT's return-to-vendor system: a month after launch, Groupon had used it for \$500k of inventory and reported that inventory accuracy was close to 100%. (Rails APIs, Angular, page objects, teaching QA to write better automated tests.)
- 2016: Built new accounting functionality, and led scaling of return-to-vendor, and adding donation and recycling channels. Worked closely with other departments (QA, PM). Identified and suggested solutions for engineering-department-wide problems.
- 2017: Comment from departing QA colleague: "I *really* appreciate all your time here. You really helped me up my coding game a lot, and helped get me to a point where I was way more comfortable teaching myself things. Thanks many times over."
- Skills/Tools: Rails, RSpec, Cucumber, architectural thinking (name-spacing and enforcing interfaces to enforce seams and start to tease apart big-ball-of-mud codebases), working closely with other departments, pushing tests down to the lowest sensible level (in this case request specs, not unit specs).

**Principal Engineer / Head of Engineering /
Solver of Problems, ClearFit, Toronto****January 2012–January 2015**

- 2012: Inherited a non-scaling Rails 2.1 prototype and turned it into a scalable modern app that grounded ClearFit's 2012 \$7M funding round.
- 2013: Mentored new developers as we expanded our engineering team, and built good communications with our new project team and with third parties we were integrating with (e.g. Monster, CareerBuilder).
- 2014: Continued to mentor and work with other developers and experts. Made additions to Cucumber testing framework so it was a closer fit for writing QA tests, and trained up QA so that they were able to write their own automated tests.
- Skills/Tools: Rails, PostgreSQL, RSpec, Cucumber, resque, AngularJS calling internal RESTful APIs, SOAP API calls to third-party services like Monster, also added a Java web service when image transformation in Ruby wasn't performant.

Consulting for various clients**2007–December 2011**

- Brought in to help large student-facing app re-architect under tight deadlines. (Rails, MongoDB, mailers, i18n for English and French versions, subdomains, haml and scss and jQuery.)
- Joined a very large set of Rails projects and championed better testing and code review
- Comment from colleague: "You have made significant improvements in your brief time with us. Certainly more so than I've made in my first three months at any position I've held."

Education

Ph. D. from the University of Cambridge: *An Analysis of the Anglo-Saxon Charters of the New Minster of Winchester*
Published by the Oxford University Press for the British Academy (ISBN 0197262236)