

rfong (Ray Fong)

rhotic@alum.mit.edu

<http://rfong.github.io/rflog>

RECENT SOFTWARE WORK

Freelance software & other pursuits

Nov 2018–present

- Freelance software work for [MIT Data+Feminism Lab](#), [Muse for Teams](#), [Reduct.Video](#), [Welkin Health](#)
- Attended [Recurse Center](#) retreats: M2'20, S1'21, SP1'23
- Co-founded a zine collective, trained in aerial silks, solo backpacking & trip planning, community & volunteer organizing (*see 2nd page*)

Honeycomb, Software engineer

Nov 2017–Oct 2018

- Provided massive value boost to product by reducing total storage requirements over all prod datasets by 2.4x, improving platform speed and usability in the process. Architected & shipped a safe, lossless multi-stage rollout of a more efficient dataset storage format across our complex multi-replica distributed query engine.
- Expanded pricing tiers by shipping 10x cheaper cold data storage.
- Expanded our instrumentation quickstart tools. Shipped a Go agent that lets users instrument an entire app in a few lines of code.

OpenAI, Software engineer

Oct 2016–May 2017

- Vastly increased the quality, variety, & usability of 3D datasets for robotics deep learning experiments. Created an ETL pipeline that reprocessed and ingested the entire Shapenet corpus to a CDN, resolved DQ issues, and shipped a package that enabled researchers to drop interactible objects into MuJoCo physics simulations via a one-liner.
- Created an efficient pipeline to procedurally generate *unique, non-convex 3D objects* on-demand into simulations. A critical prerequisite to our sim-to-real transfer learning research into robotic grasping.
- Built a containerized deployment system interfaced with ROS that allowed easy & safe deployment of high-level scripts to our physical testing robot. Added digital & electromechanical safety rails.
- Mentored researchers in industry practices like versioning & testing.

Locu, Senior software engineer

Jan 2016–Apr 2016

Software engineer

May 2014–Jan 2016

- Built various ETL & DQ pipelines and internal tools to automatically structure and verify scraped business listings, such as a pipeline to flag & constraint-solve DQ issues so our platform could auto-help business owners resolve issues with their listings.
- R&D project to generate aesthetic websites from business listings, using ML over data I coordinated crowdsourcing to obtain.

PRIOR WORK (DETAILS AVAILABLE ON REQUEST)

- Engineering & product consulting for Techstars Boston
- Co-founded startup to develop a user-friendly RDBMS interface
- NLP focused backend engineering at Lengio
- Developed consumer analytics datavis product at Bluefin Labs
- Internships in search & query engine infrastructure at Facebook, Monster.com, Endeca, Kayak. Research w/ MIT Media Lab & CSAIL.
- Built haptic laparoscopic suturing simulator in OpenGL for Stanford University (2007).

Always making. Enthusiastic about maintainability, transparency, information ergonomics, tool accessibility, and figuring out things I've never seen before.

CURRENT VALUES

- My work must actively benefit not just the socioeconomic elite first; consider existing systemic behaviors.
- Before moving fast, pick a direction.
- Be kind. Everyone is a person.
- [Morally opposed to user engagement without regard for user fulfillment](#)

SKILLS

Data engineering & ETL, fast E2E prototyping, platform generalist, learning new stacks, smashing silos, [glue work](#)

Go, Python, full-stack (Django, Rails, devops/infra, Postgres, Angular, React, JS, etc, etc), C++/C, Rust, Java

[Photography](#), basic mechanical design & fabrication, [illustration & graphic design](#), event logistics, branding, [creating digestible & engaging content](#), teaching

SOME PERSONAL PROJECTS

- [Creative coding sketches](#)
- ["Meta Markov Mashup" platform](#)
- [Daft Punk programmable LED visor](#)
- \$50 tabletop 3D scanner
- ASL crowdsourced reverse dictionary
- Lexical classifier for satire recognition
- Toolpath visualizer + G-code generator desktop app for CNC 2.5D milling
- Design & from-scratch fabrication of a human-rideable mecamum drive

EDUCATION

MIT (2008–2012) – B.Sc. in Computer Science & Engineering

Domain Randomization for Transferring Deep Neural Networks from Simulation to the Real World

J. Tobin, R. Fong, A. Ray, J. Schneider, W. Zaremba, and P. Abbeel.

In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017.

[arXiv 1703.06907](#)

Hindsight Experience Replay

M. Andrychowicz, F. Wolski, A. Ray, J. Schneider, R. Fong, P. Welinder, B. McGrew, J. Tobin, P. Abbeel, and W. Zaremba.

In *Neural Information Processing Systems (NIPS)*, 2017.

[arXiv 1707.01495](#)

VOLUNTEER & COMMUNITY ORGANIZING

MIT Admissions, Chair of Engineering Advisory Board since 2020 *2014–present*

- I run the 35-50 person team that evaluates MIT undergraduate applicants' [Maker Portfolios](#) to identify creative, impactful makers who are a good fit for the MIT community. I remotely recruit & train new reviewers, create training material to normalize our standards, match cases to reviewers, & support reviewers with complex cases.

Dart Democracy, Co-organizer & MC *2019–2021*

- Co-organized a 50+ attendee movement festival for rope dartists, complete with skillshare workshops, DJs, performances, and firespinning. In 2020, we used an entirely virtual interactive festival venue that I built in Gather.Town.

MIT Admissions, Educational Council *2014–2018*

- Interviewer & alum ambassador for prospective undergraduate applicants. Received the highest possible insight ratings for ~85% of my interview reports from 2015 to 2018.

o11ycon Observability Conference, Experience design, content marketing, speaker *2018*

- Content marketing, CFP logistics & review
- Architected a facilitated open discussion format to guide attendees through productive informal discussions, culminating in summary presentations of modern approaches to distributed systems observability.

SFHC Box City, Construction *Jan-Mar 2017*

- Helped construct [beautiful tiny houses](#) for unhoused SF residents. Apprentice to architect [Moksha Osgood](#).

Stupid Hackathon SF, Co-organizer *2015-2017*

- Co-organized an [inclusive, low-barrier](#) hackathon that draws ~300 attendees annually.

MIT 6.470, Co-organizer *2013*

- Co-organized month-long web programming crash course / competition with ~100 participants

SPEAKER / PRESENTER

- Rope dart instructor, [KindleNW 2023](#), [Pacific Fire Gathering 2018–2019](#), [Firedrums 2018–2019](#).
- Tabler, [East Bay Alternative Book & Zine Fest 2019](#).
- "Lure Your Ideas Onto Paper: How To Make A Zine" workshop, [Let's Sketch Tech 2018](#).
- "Observing When It Pays Off To Do Nothing: the `rsync` chronicles", [o11ycon 2018](#).
"UX Observability for Platform Decisions", [o11ycon 2018](#).

RECOGNITIONS

- 2020 MIT [Volunteer Honor Roll of Service](#)
- 2012 MIT Web Programming Competition (6.470) - 1st place
- 2009 MIT Battlecode (6.370) - 6th place
- USA Computing Olympiad 2007-08 year - Gold division, top 15 nationally
- FIRST Robotics, Davis Regional 2007 - Xerox Creativity Award