

rfong (Ray Fong)

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<http://rfong.github.io>

RECENT WORK

Personal sabbatical

Nov 2018–present

- Co-founded a zine collective; taught, self-published, & tabled
- Leveled up at aerial silks, solo backpacking, & community organizing
- Freelance data engineering

Honeycomb, Software engineer

Nov 2017–Oct 2018

- Reduced total storage requirements over all prod datasets by 2.4x, improved platform performance and usability, and increased value per dollar by architecting a lossless multi-stage rollout of handlers for a more efficient dataset storage format across our distributed query engine, making allowances to catch unknown-unknown edge cases.
- Shipped a tier of 10x cheaper cold storage, queryable at an explicit performance tradeoff, and its UX & sales implications.
- 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 available data 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 a performant 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 robot. Prior to this, researchers SSH'd directly into the robot without any digital or electromechanical safety protocols.
- 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.
- 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, un-siloing team knowledge, cross-departmental communication, learning new stacks

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

Photography, basic mechanical design & fabrication, **illustration & graphic design**, event logistics, branding, **creating digestible & engaging content**, teaching

SOME PERSONAL PROJECTS

- **"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

Dart Democracy, Co-organizer & MC

2019–present

- 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, Chair of Engineering Advisory Board since 2020

2014–present

- Lead reviewer evaluating MIT undergraduate applicants' **Maker Portfolios**. We identify creative and impactful makers who are a good fit for the MIT community. I also remotely recruit, train, and support new reviewers.

MIT Admissions, Educational Council

2014–2018

- Interviewer & alum ambassador for prospective undergraduate applicants. Committee gave the highest possible insight ratings for ~85% of my interview reports starting in 2015.

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

- Tabler, *East Bay Alternative Book & Zine Fest 2019*.
- "Lure Your Ideas Onto Paper: How To Make A Zine" workshop, *Let's Sketch Tech 2018*.
- "UX Observability for Platform Decisions", *o11ycon 2018*.
- "Observing When It Pays Off To Do Nothing: the rsync chronicles", *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