

Andy Sigler

product engineering | interactivity | software | electronics

I love to make physical things that are fun or interesting to use. My experiences mostly include designing gadgets and automation tools, plus I teach a graduate course on making DIY circuit boards.

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Work

HARDWARE RND / SYSTEMS / SOFTWARE / ELECTRONICS 2014-'19, 2021-Present
@ [OPENTRONS-LABWORKS](#)

- First employee at startup, writing entire software stack for Kickstarter release
- Designed and developed the [Opentrons Python API](#) on a small team, released winter 2016
- Lead design and systems engineering of the [OT2 liquid-handling machine](#) and [pipettes](#)
- Wrote OT2 and Module device firmware, motion control software, and production line testing software
- Sole electronics designer for the OT2, pipettes, temperature module, and magnetic module
- Lead early product ideation, R&D, testing, and design for all hardware products, focusing on electronics and systems design
- Helped grow factory and production process in Opentrons' Shenzhen factory, growing from two employees in 2016 to greater than fifty in 2019

HARDWARE LEAD / FIRMWARE 2019-2021
@ [ODA INC](#)

- Hardware team leader and manager for startup consumer-electronics product
- Led mechanical, electrical, and production of 1k speaker systems
- Wrote device firmware (WiFi/Bluetooth audio, BLE, interactivity)

ITP FELLOW 2020
@ [ITP-NYU](#)

- Developing software tools and experiences for ITP's robotic arms
- Teaching wider ITP community how to safely use large robotic arms
- Developing curriculum for a future class around the robotic arms

FREELANCE CONSULTING 2019-Present
@ [SELF](#)

- Advising and developing on IoT systems and products, for startups, companies and regional artists

ADJUNCT PROFESSOR 2015-Present
@ [ITP-NYU](#)

- Teaching a course of my own design, entitled [Homemade Hardware](#)
- Graduate students from all types of backgrounds learn to design and fabricate DIY circuit boards

ELECTRONICS DESIGN ENGINEER 2015-'16
@ [TOMORROW LAB](#)

- Designed and tested production-ready prototypes and beta runs of wireless devices
- Designed electronics and firmware for devices utilizing wireless protocols, including Bluetooth LE, WiFi, LoRa, and ANT

RESEARCH RESIDENT 2014-'15
@ [ITP-NYU](#)

- Research focusing on internet-of-things design tools, as well as circuit board fabrication techniques
- Mentored graduate students with their projects, as well as held office hours to teach relevant engineering skills
- Created the ITP "Hard-Lab", which is a section of the facility dedicated to circuit board fabrication, using pick-and-place machine, micro-milling machines, reflow ovens, parts management, and diagnostic equipment

Education

MASTER'S DEGREE

2012-'14

@ [ITP-NYU](#)

- Self-lead master's degree, focused on interaction design through emerging hardware and internet technologies
- Presented a master's thesis, [Patchbay](#), a wireless framework for designing wirelessly interoperable toys and musical instruments

BACHELOR'S DEGREE

2006-'10

@ [HAMILTON-COLLEGE](#)

- Political science major, and music minor
- Varsity lacrosse player, three years starting at defensive midfield and close defense
- Member of Alpha Delta Phi fraternity