

SAM DAITZMAN

CONTACT

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Human-centered product designer, software engineer, and public interest technologist.
Dedicated to excellent, compassionate design practice and public service.

EDUCATION

2018-2022: F.W. Olin College of Engineering Needham, MA
BSc. Engineering, Human-Centered Product Design Concentration. GPA: 3.98.
Grand Challenge Scholar. Awarded 4-year, 50% tuition merit scholarship.
Co-founded PlnT, Olin's student-led public interest technology program.

Design Coursework: 10 design-specific courses (40 credits). >1,800 hours project-based design course time.

Teaching Assistant Roles: Quantitative Engineering Analysis, Creativity Practicum, Principles of Integrated Engineering. Delivered "Design Systems" guest lecture in User Experience Design.

Student Leadership: Elected CORE Student Government Representative (Class of 2022).
OPEN (LGBTQIA+) student club leader. Organized students to work with college leadership to enact significant campus policy changes for inclusion of transgender students.

2017 Spring: MIT Media Lab/CMS.862: Civic Media Co-Design Studio Cambridge, MA
Joint course through NuVu Studio. Course taught by Sasha Costanza-Chock covered civic media, community organizing practice, and design as a tool for civic organizing and public good.

2015-2017: Harvard University Extension School Cambridge, MA
Part-time. Computer Science Degree Candidate.

2013-2017: NuVu Studio Innovation School Cambridge, MA
Project-based innovation school with a design studio model. Instruction focused on problem-solving applied to engineering, human-centered product design, and art.

SELECTED COURSE PROJECTS (OLIN COLLEGE)

User-Oriented Collaborative Design: Full-semester stakeholder-engaged design research project on community organizers' needs. Collected, organized and analyzed dozens of interviews to develop, refine and iterate products and services. Used Figma, Miro, and Zoom to continue collaborative design process through beginning of COVID-19 pandemic. *180h total*

Sustainable Design: Used single-factor lifecycle analysis and collected interviews to produce detailed reports on the ecological and social sustainability of FitBit fitness tracker product. For final project, developed product-service system for a civic technology consultancy. *180h total*

Principles of Engineering: Designed and fabricated a working, remote-controlled robot capable of making trips up and down stairs while carrying an actively stabilized package. Primary designer and developer of project website using VueJS. Created integrated mechanical product design. Produced and delivered bi-weekly presentations for each agile project sprint. *90h total*

Introduction to Sensors, Instrumentation and Measurement: Developed and demonstrated responsive interface for live heavy-equipment power usage display using HTML/CSS/JS, WebSockets, and C++ deployed on an ESP32 microcontroller. *~40h total*

SPECIALIZED EXPERIENCE 1/2

Olin College ADE Design/Engineering Capstone Rights and Privacy Team, Project Manager

12-15h weekly (capstone), 600h total
Jan 2021 - May 2022

Advanced new data-science project from legal research to use in court in support of racial justice. Primary author of initial data analysis written in Python using pandas, numpy and Jupyter frameworks. Selected project manager of a team of ~10 for final two semesters of capstone.

- Developed effective team structure for data analysis, collaboration with community stakeholders, and legal/policy research. Used agile/lean methodologies and detailed documentation to track tasks across semesters.
- Built a coalition of public defenders, community organizers, racial justice advocates, and academic statisticians. Led collaborative decisionmaking process to ensure our data products served multiple communities well.
- Met regularly with coalition leaders to engage their stakeholder expertise in a shared co-led design process.
- Used multiple public interest design intervention frameworks including Sherry Arnstein's Ladder of Citizen Participation (1969), Capire's Engagement Triangle (2015), and the Partnerships Compass Framework (2022).
- Wrote three extensive assumption-testing reports on data acquisition/analysis, legal implications of our tool, and strategies and frameworks for effective community engagement.

Olin College Public Interest Tech (PiNT) Co-Founder, Organizer, PiNT Summer Fellowship Director

~8h weekly (volunteer role), ~1000h total
Feb 2019 - May 2022

Student-led Public Interest Tech group. Developed sustainable organizational structure. Founded and directed PiNT Summer Fellowship. Successful fundraising totalled over \$153,000. Coauthored strategic plan that grew PiNT to reach 1 in 3 Olin students with public interest tech events, teams, and programs.

- Developed PiNT structure of skillshares, public interest tech panel events, consulting clinic, and summer fellowship.
- PiNT students worked on 11 engineering and design projects with outside stakeholders, invited dozens of speakers and panelists to events every semester, and shared our work at 6 conferences.
- Founded public interest tech fellowship program and directed selection, placement and summer cohort meetings for 10 fellows over 3 years. Fellowship offered generous funding, mentorship and a community of practice.
- Built a sustainable leadership transition process and served as a mentor for new public interest student leaders.
- Created and refined sustainable project management approaches for student-led public interest technology consulting projects. Shared out our work in multiple presentations, open documentation, and an IEEE paper.

Toyota Research Institute User Experience/UI Designer

40h weekly, 480h total
Jun-Aug 2021

Primary designer responsible for in-depth design research and redesign of experimental scientific computing interface. Under research contract through Olin College.

- Created and maintained a modern project management workspace in Notion for research team.
- Created looks-like and works-like interface prototypes using Figma, Framer, Sketch, and HTML/CSS/JS.
- Designed and ran 14 IRB-cleared user research testing sessions to identify key issues with users' understanding of product interface. Collected, coded and analyzed actionable interaction data.
- Developed ~10 interface redesigns and variations, and measured improvements in followup user tests and co-design sessions with digital and paper interface prototypes. Iterated repeatedly to improve tool design.
- Shared findings in detailed report and presentation highlighting 3 key opportunities to substantially improve product's interface design to aid user comprehension and engagement.

Olin College Summer Math Interface Researcher

40h weekly, 480h total
Jun-Aug 2020

Created and implemented interactive calculus demonstration with Professor Kelsey Houston-Edwards. Sole front-end interface developer responsible for interactive educational content.

- Developed interactive game-like interface for delivering fun, intuitive calculus content.
- Collaborated with comic artist to design digital comic about calculus using educational content design principles.
- Used modern web stack including HTML/SCSS/JS with a Parcel build system and Netlify deployment.

Olin College Context & Ethics Working Group Research Assistant

40h weekly, 480h total
Jun-Aug 2019

Co-designed teaching curriculum on engineering ethics, social implications of tech, and context for Machine Learning, Quantitative Engineering Analysis, Software Design and other classes.

- Created and maintained an integrated project management environment, including shared task tracking.
- Identified key opportunities to integrate context, ethics and public good into technical curriculum.
- Used human-centered research approach to make engineering classes more equitable and inclusive based on detailed feedback with stakeholders including engineering faculty, students, and staff.
- Developed and designed educational materials using LaTeX, Notion, Adobe Illustrator, Photoshop, and InDesign.

SPECIALIZED EXPERIENCE 2/2

Harvard University, Berkman Klein Center for Internet and Society ~10h weekly during projects, 642h total **Research Assistant** Feb 2017-Aug 2018, Aug 2019

Research assistant and design intern working in research, project planning and curriculum design in the Youth and Media Lab and the Ethics and Governance of AI initiative.

- Created Digital Citizenship curriculum modules and contributed to research on machine learning, artificial intelligence explainability, digital citizenship, and related subjects.
- Developed a new design system using Adobe Illustrator, Photoshop and InDesign. Created an Adobe extension written in JavaScript/ExtendScript to automatically generate unique, visually compelling designs for the lab.
- Modified WordPress research group website to match new visual design system.
- Assisted in documenting and synthesizing AI Explainability working group meetings for use in research paper.

NuVu Studio **Summer Intern**

35h weekly, 700h total
Jun-Aug 2015 and July-Aug 2016

Lasercutting, 3D printing, fabrication, electrical and software engineering instructor and facilitator. Supported student teams in researching, designing, problem-solving and presentation of innovative summer projects.

PUBLICATIONS

Care and Liberation in Creating a Student-Led Public Interest Technology Clinic
Chowdhary, Daitzman, Eisenbud, Pan, Graeff. *IEEE ISTAS 2020; Technology and Society Magazine 2021*. DOI 10.1109/ISTAS50296.2020.9462188

Youth and Digital Citizenship+: Understanding Skills for a Digital World*
Cortesi et al 2020. SSRN 3557518

* Non-authorship research assistant contribution.

A Qualitative Study of Engineering Students' Reasoning About Statistical Variability
Aggarwal, Flynn, Daitzman, Lam, del Rosario 2021. <https://peer.asee.org/38421>

Accountability of AI Under the Law: The Role of Explanation*
Doshi-Velez et al 2017. *arXiv:1711.01134*

SELECTED PRESENTATIONS

Public Interest Tech University Network Undergraduate Informatics Conference: Launching a Student-Run Public Interest Tech Initiative
March 5, 2020. Austin, TX

IEEE International Symposium on Technology and Society: Care and Liberation in Creating a Student-Led Public Interest Technology Clinic
Nov 14, 2020

InventEd: Diversity beyond Labels
Feb 2, 2021

Rights and Privacy ADE Engineering/Design Capstone Progress Reviews & Final Presentation
March 30, 2021; Dec 14, 2021; May 4, 2022

PIT-UN Grantee Video Report-out: Olin College PiNT Summer Fellowship
Oct 27, 2021 - <https://youtu.be/ib7nBS-ligI>

Tang Institute at Andover: Student-Led Public Interest Tech Education
Aug 6, 2021

Olin College User Experience Design Guest Lecture: Design Systems
Apr 11, 2022

GRANTS & FUNDRAISING

2018, BOW Zine Collective
\$1500 fellowship award. Founded team and wrote grant submission. Organized community of creators on 3 campuses.

2019 and 2020 Public Interest Tech University Network Challenge Grants for PiNT
\$151,185 to launch Olin College's Public Interest Technology program and support its fellowship.

2021 PiNT Community Fundraiser
\$2,784 raised to support student public interest technology space and ongoing projects at Olin College.

2021 Toyota Research Proposal
\$20,000 research funding to support summer 2021 design research project.

SELECTED AWARDS & FELLOWSHIPS

Interact Fellowship for Mission-Driven Technologists
2021 Interact Fellow

Weissman Foundry Fellowship, Babson College
2019 Foundry Fellow

MakeHarvard Hackathon: BMW Applied AR/VR Interface Design
2019 First prize in category