DANA CALACCI, Ph.D

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Princeton, NJ

EDUCATION

Massachusetts Inst. of Technology
Feb. 2019 - May 2023

Advisor: Alex (Sandy) Pentland
PhD in Media Arts and Sciences
Title: *Centering Communities in Research and Technology Design*

Massachusetts Inst. of Technology
Sep 2016 - May 2018

Advisor: Alex (Sandy) Pentland
M.S. in Media Arts and Sciences
Thesis: Network Exploration Effects in Machine & Human Groups

Northeastern University
Sep 2011 - Dec 2015

College of Computer and Information Science
B.S in Computer Science
Minors: Political Science, Sociology
Honors: 3.5/4.0 GPA, Dean's Scholarship, Garnet Award, CCIS Fellow, CCIS Peer Mentor

RESEARCH INTERESTS

Crowdsourced Algorithmic Auditing
Building and deploying tools for crowdsourced algorithmic audits in high-impact, real-world environments.

Systems for Community Data Collection and Analysis
Engineering, evaluating, and deploying tools that help communities share, control, and use their data.

AI and the Future of Labor/Work
Investigating the future of global AI and data regulation in the employment context.

Surveillance and Privacy in the Real-World
Theorizing and investigating how ballooning corporate surveillance networks impact public space, consumers, privacy, and community governance.

RELEVANT EXPERIENCE & AFFILIATIONS

Penn State University
July 2024 - Present

Assistant Professor of Information Science and Technology
Affiliate, Institute for Computational and Data Sciences

NASA/JPL
June 2020 - Sep 2020

Media Artist

- Conceptualized and executed artistic projects investigating the epistemology of scientific research and visualization.
- Created mixed-media artistic outputs including interactive computational art, collage, and academic knowledge.

WeClock
June 2020 - Present

Researcher In Residence

- Design, develop, and deploy worker-centric labor technology.
- Advise on grant applications and applications of technology for advocacy.
- Run and organize workshops with trade union leaders on data visualization, data storytelling, and digital maturity.

Princeton University CITP
July 2023 - Present

Postdoctoral Fellow

Riff Analytics
June 2018 - Feb 2019

Cofounder and Chief Research Scientist

- Designed and develop research and product strategies for an A.I. as a service company.
- Led AI and data science pipeline, product architecture, and research designs.
- Developed and co-wrote grant application that led to a successful National Science Foundation SBIR grant.

Level EDU
Sep 2018 - Feb 2019

Data Analysis Instructor

- Taught, mentored, and supported a cohort of 18 mid-career students in learning data analysis, statistics, and predictive analytics over a 20 week intensive hybrid class.
- Developed and designed custom data science curriculum.
- Nine of 18 students obtained new positions or graduate school acceptance post-program.

SELECTED PUBLIC WRITING

Google Needs to Unlock Its Ad Privacy Black Box
Gizmodo, 2022
Accessible at https://perma.cc/RQT6-QLSK

Location Tracking to Fight Coronavirus is Dangerous and Possibly Pointless
Gizmodo, 2020
Accessible at https://perma.cc/BW98-W7MZ

SELECTED MEDIA

IRL: Online Life is Real Life
Podcast from Mozilla. 2022.
Accessible at https://perma.cc/E6UU-P8ZW

RadioLab: Gigaverse
NPR WNYC, 2022. Featured interview in last segment of episode.
Accessible at https://perma.cc/5SG3-A8C3

Mozilla Internet Health Report
Mozilla, 2022. Podcast.
Accessible at https://perma.cc/RJ8Y-XK2J

Google's FloC flopped, boffins claim, because it failed to provide promised privacy
The Register, 2022
Accessible at https://perma.cc/FN9V-YCEK

Some Shipt workers report seeing lower pay under new effort-based model
The Verge, 2020
Accessible at https://perma.cc/RX2K-E427

Shipt's 'Effort-Based' Model Is Cutting Pay for 40% of Workers, Study Shows
Gizmodo, 2020
Accessible at https://perma.cc/A4EY-TSYN

Ring's Hidden Data Let Us Map Amazon's Sprawling Home Surveillance Network
Gizmodo, 2019
Accessible at https://perma.cc/L7QS-34VK

The 'Atlas of Inequality' Maps Micro-Level Segregation
Bloomberg, 2019
Accessible at https://perma.cc/4L59-44ZS

'Atlas Of Inequality' Shows Income Segregation Around Boston
WBUR, 2019
Accessible at https://perma.cc/G4WR-S76N

INVITED TALKS & PANELS

Why Data Rights Should be Labor Rights: Data Protection and AI Regulation for Gig Workers and Beyond
Invited talk at Princeton's Center for Information Technology Policy, 2023

Why Data Rights Should be Labor Rights: Data Protection and AI Regulation at Work
Price Lab for Digital Humanities, University of Pennsylvania, 2023

Centering Communities in Research and Technology Design
Princeton University Digital Investigators Conference, 2023

Big Data & Society 2023 Colloquium: Data & Social Justice
2023

Worker surveillance fireside chat with Veena Dubal, Wilneida Negrón and D Calacci
Federal Trade Commission, 2023

Federal Trade Commission PrivacyCon: Why Worker Data Regulation Is About More Than Privacy
Panel on Commercial Surveillance, 2022

How to Bargain with a Black Box: Hacking our Way Towards Data-Driven Organizing (Or: a Roadmap for Data-Driven Organizing)
Hackers On Planet Earth, 2022

Ring Around the Neighborhood: Spatial Analysis of Doorbell Camera Use
Pitt Computational Social Science Seminar, 2021

One Ring To Surveil Them All: Hacking Amazon Ring to Map Neighborhood Surveillance
Data & Society, 2020

KEYNOTES

How to Bargain with a Black Box: Auditing an Algorithmic Pay Change With a Community-Led Audit
Community Keynote. Fifth Annual ACM FAccT Conference. (2022)
D Calacci, Willy Solis, Drew Ambrogi, Vanessa Bain, Danny Spitzberg

PUBLISHED PAPERS

Open e-commerce 1.0, five years of crowdsourced U.S. Amazon purchase histories with user demographics
Under Review (dataset)
Alex Berke, **D Calacci**, Robert Mahari, Takahiro Yabe, Kent Larson, and Alex Pentland

Insights from an experiment crowdsourcing data from thousands of US Amazon users: The importance of transparency, money, and data use
Under Review
Alex Berke, Robert Mahari, Alex (Sandy) Pentland, Kent Larson, **D Calacci**

From Access to Understanding: Collective Data Governance for Workers
European Labor Law Journal (2023). https://doi.org/10.1177/20319525231167981
D Calacci, Jake Stein

Building Dreams Beyond Labor: Worker Autonomy in the Age of AI
ACM Interactions (2023). Accessible at https://doi.org/10.1145/3626245
D Calacci

Privacy Limitations Of Interest-based Advertising On The Web: A Post-mortem Empirical Analysis Of Google's FLoC
ACM Conference on Computer and Communications Security (2022). https://doi.org/10.1145/3548606.3560626
Alex Berke, **D Calacci**

Bargaining With the Black-Box: Designing and Deploying Worker-Centric Tools to Audit Algorithmic Management
25th ACM Conference on Computer-Supported Cooperative Work (2022). https://doi.org/10.1145/3570601
D Calacci, Alex (Sandy) Pentland

The Cop in Your Neighbor's Doorbell: Amazon Ring and the Spread of Participatory Mass Surveillance
25th ACM Conference on Computer-Supported Cooperative Work (2022). https://doi.org/10.1145/3555125
D Calacci, Jeffrey Shen, Alex (Sandy) Pentland

Organizing in the End of Employment: Information Sharing, Data Stewardship, and Digital Workerism
2022 Symposium on Human-Computer Interaction for Work 1 (2022): 1-9. https://doi.org/10.1145/3533406.3533424
D Calacci

Mobility patterns are associated with experienced income segregation in large US cities
Nature Communications 12, 4633 (2021). https://doi.org/10.1038/s41467-021-24899-8
Esteban Moro, **D Calacci,** Xiaowen Dong, Alex (Sandy) Pentland

Leveraging Communication Topologies Between Learning Agents in Deep Reinforcement Learning
AAMAS. pp. 1738-1740. (2020). https://doi.org/10.48550/arXiv.1902.06740
Dhaval Adjodah, **D Calacci**, Abhimanyu Dubey, Anirudh Goyal, P.M. Krafft, Esteban Moro, Alex Pentland

Patterns of Interaction Predict Social Role in Online Learning
SBP-BRiMS (2018). https://sbp-brims.org/2018/proceedings/papers/latebreaking_papers/LB_11.pdf
Cici Sun, **D Calacci**, Alex (Sandy) Pentland

Rhythm: A unified measurement platform for human organizations
IEEE MultiMedia 25.1 (2018): 26-38. https://doi.org/10.1109/MMUL.2018.112135958
Oren Lederman, Akshay Mohan, **D Calacci**, Alex (Sandy) Pentland

A frame of mind: Using statistical models for detection of framing and agenda setting campaigns
Proceedings of the 53rd ACL Vol. 1. (2015): 1629-1638.
Oren Tsur, **D Calacci,** David Lazer

CONFERENCE TALKS, WORKSHOPS, & POSTERS

Breakout: An Open Measurement and Intervention Tool For Distributed Peer Learning Groups
SBP-BRiMS (2016). https://sbp-brims.org/2016/proceedings/IN_104.pdf
D Calacci, Oren Lederman, David Shrier, Alex (Sandy) Pentland

FairFare: Towards crowdsourced algorithmic inquiry in the gig economy
Talk. CSCW Workshop: Back to 'Back to Labor' (2023)
D Calacci, Samantha Dalal, Varun Rao, Danny Spitzberg, and Andrés Monroy-Hernandez

Fairer Working Futures: Co-Developing a Roadmap For Labor-Centric FAccT Research
CRAFT **Workshop** Session. Fifth Annual ACM FAccT Conference. (2022)
D Calacci, Willy Solis, Wilneida Negrón

One Ring To Surveil Them All: Hacking Amazon Ring to Map Neighborhood Surveillance
Talk. Hackers On Planet Earth Conference. (2020)
D Calacci

Ring Around the Neighborhood: Spatial Analysis of Doorbell Camera Use
Talk. 6th International Conference on Computational Social Science. (2020)
D Calacci, Jeffrey Shen, Alex (Sandy) Pentland

Far-Right Forum Network and LDA analysis
Poster. 6th International Conference on Computational Social Science. (2020)
D Calacci, Aliah Braley, Dhaval Adjodah, Alex (Sandy) Pentland

Find My {}: Location Data, Surveillance, and the Commons
Workshop Session, Privacy & Security, MozFest. (2019)
D Calacci, Becca Ricks, Nasser Eledroos

The tradeoff between the utility and risk of location data and implications for public good
Talk. Connected Life Conference; Oxford/LSE. (2019)
D Calacci, Alex Berke, Kent Larson, Alex (Sandy) Pentland

Economical Segregation of Encounter Networks in Cities
Talk. Network Science Society Conference. (2018)
Esteban Moro, **D Calacci**, Xiaowen Dong, Alex (Sandy) Pentland

Optimizing Inter-Agent Communication Networks for Improved Deep Reinforcement Learning
Talk. Network Science Society Conference. (2018)
Dhaval Adjodah, **D Calacci**, Yan Leng, Abhimanyu Dubey, Peter Krafft, Esteban Moro, and Alex 'Sandy' Pentland

Improved Learning in Evolution Strategies via Sparser Inter-Agent Network Topologies
Talk. Thirty-first Conference on Neural Information Processing Systems (NeurIPS). (2017)
Dhaval Adjodah, **D Calacci**, Yan Leng, Peter Krafft, Esteban Moro, and Alex 'Sandy' Pentland

Exploring inter-group social contact using high-resolution geospatial data
Talk. Conference on Complex Systems. (2017)
D Calacci, Esteban Moro, Alex (Sandy) Pentland

Breakout: An Open Measurement and Intervention Tool For Distributed Peer Learning Groups
SBP-BRiMS (2016). https://sbp-brims.org/2016/proceedings/IN_104.pdf
D Calacci, Oren Lederman, David Shrier, Alex (Sandy) Pentland

As Long as You Name My Name Right: Social Circles and Social Sentiment in the Hollywood Hearings
Proceedings of the ACL Joint Workshop on Social Dynamics and Personal Attributes in Social Media (2014): 83-87.
D Calacci, Oren Tsur, David Lazer

Automatic Discovery of Partisan Campaigns, Agenda Setting, and Political Spin in Press Releases
Poster. Computational Journalism, Columbia, NYC (2015)
Oren Tsur, **D Calacci**, David Lazer

Separated by a common language? Using topic models in reconstructing networks of political influence and cooperation
Talk. Political Networks. (2014)
Oren Tsur, **D Calacci,** David Lazer

What you know and who you know: discussion networks and political knowledge
Poster. Political Networks. (2014)
Katherine Ognyanova, **D Calacci**, David Lazer, Michael Neblo, William Minozzi, Brian Rubineau

INVOLVED GRANTS

Current

Empowering Delivery Gig Workers with Data and Insights to Improve Health
Robert Wood Johnson Foundation Pioneering Ideas
Award Amount: $250,000.00
Role: Co-Investigator

The Worker's Observatory: Crowdsourced tools for Collective Audits of Algorithmic

Mozilla Technology Fund, 2022
Award Amount: $50,000.00
Role: Grant co-author, engineering lead.

Completed / Past

SBIR Phase I: Positive Effects of Feedback and Intervention for Engagement in Online Learning
National Science Foundation. Grant # 1843391
Award Amount: $223,090.00
Role: Grant co-author, data analysis and system development as Co-Founder

SBIR Phase II: Using Intervention and Feedback to Improve Group Function In Online Contexts
National Science Foundation. Grant # 2026003
Award Amount: $991,417.00
Role: Grant co-author, analysis and reporting

SERVICE
(interpreted broadly)

In 2020, I served as a **mentor in the Queer in AI community**, mentoring younger queer students in research and career development.

I have served as a reviewer for:

CHI 2023-24   CSCW 2022-23   SBP-BRiMS 2020

SBP-BRiMS 2021   PLOS-ONE   IC2S2 2022-24

FAccT 2021-24 (AC)   Data & Society

I **routinely do volunteer data analysis and rough visualization for journalists** without credit. Some notable outlets I have helped in some way include **The New York Times, Reuters, Gizmodo, and the MIT Technology Review.**

From 2018 to 2020, I **co-founded and co-hosted a semiannual local art, poetry, and music series** in my home in Jamaica Plain, MA.

In the Fall of 2019, I **organized and co-hosted a feminist poster-making and performance benefit** at the MIT Media Lab following the Epstein scandal.

In 2019 and 2020, I **testified at the Massachusetts Statehouse** in support of the first A.I. Governance bills to be introduced in the MA state legislature.