

Dan Calacci

37 Boynton St #2
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(908)-229-8992
www.dcalacci.net
dcalacci@media.mit.edu

Education

MIT Media Lab

Feb. 2018 - Present

Advisor: Alex (Sandy) Pentland, Human Dynamics Group
PhD student in Media Arts and Sciences

MIT Media Lab

Sept. 2016 - May 2018

Advisor: Alex (Sandy) Pentland, Human Dynamics Group
M.S. in Media Arts and Sciences. 2018.

Thesis: Networked Exploration Effects in Machine and Human Groups

Northeastern University (NEU)

Boston, MA. Sept 2011 - Dec 2015

College of Computer and Information Science (CCIS)

B.S in Computer Science, Minors: Political Science, Sociology. 2015.

Courses: Artificial Intelligence (Graduate), Algorithms & Data (Graduate), Mobile Application Development, Software Development, Health and Public Policy (Graduate)

Honors: 3.5/4.0 GPA, Dean's Scholarship, Garnet Award, CCIS Fellow, CCIS Peer Mentor

Activities: CCIS Tour Guide, NU HACKS

Work Experience

Riff Learning, Cofounder & Chief Research Scientist

Boston, MA. June. 2018 - Feb. 2019

- Design and develop research and product strategies for an A.I. as a service company.
- Lead product development on a reactive, data-driven website using state of the art communication technology and AI.
- Lead AI and data science pipeline, product architecture, and research designs.
- Developed grant application that led to a successful National Science Foundation SBIR grant.

Level EDU, Data Analysis Instructor

Boston, MA. Sept. 2018 - Feb. 2019

- Taught, mentored, and supported a cohort of 18 students in learning data analysis and predictive analytics over a 20 week intensive class.
- Develop and design custom data science curriculum.

MIT Media Lab Human Dynamics Group, Research Assistant

Boston, MA. Jan. 2015 - Sept. 2016

- Helped lead a research project Investigating the effect of mobile data collection/visualization on diabetic patients' health behaviors.
- Developed a realtime visualization framework for the analysis of group social dynamics using data collected from a wearable mobile phone platform.

NEU Lazer Lab, Research Assistant

Boston, MA. Jan. 2014 - Jan. 2015

- Pursued independent research interests, exploring the relationship between political social dynamics and language use through computational analysis.
- Contributed to the development and design of volunteerscience.com, built with Django.

NEU CCIS, CCIS Fellow

Boston, MA. Sept. 2013 - Jan. 2016

- Co-teach the CCIS Overview class for incoming first year students and manage the team of TAs.
- Help students develop resumes, acquire interview skills, and prepare for their first job.

SAIC/LEIDOS, Software Engineer Co-Op

Arlington, VA. Jan. - July 2013

- Co-designed and developed user-facing software to manage, examine, and control a robotic boat using Java, ActiveMQ, and the Eclipse Plugin Framework.
- Developed a code generator in Python that generated C++ header files from XML schemas.

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Honors and Awards

- Fulbright (2016):** Fulbright Award for a behavioral health research grant in Iceland (declined)
- Huntington 100 (2015):** Awarded to a selection of 100 students of each graduating class at NEU
- Garnet Award (2015):** Awarded to those who exemplify leadership, volunteerism, academic integrity and commitment to Northeastern University.

Research Interests and Projects

Value-based platforms and ecologically-centered design

- Investigate how to design platforms and community tools that help groups behave in accordance with their beliefs and values.
- Designing recommendation systems that optimize both for user personalization and stated values; i.e. personalized news that takes into account information diversity, or place recommendation that also optimizes for segregated behaviors.
- Auditing existing algorithms to understand how automated decision-making effects how algorithmically-guided behaviors do or do not align with user's values.

Social segregation in cities

- Creating new measures of social segregation across class and race using high-resolution location data
- Applying network science and machine learning methods to understand how cities can increase social mixing and interaction between different groups
- Understanding the impact of inter-group interaction in cities

Measuring commercial surveillance

- Develop measurements of commercial surveillance of city streets and public space that can be used to understand the spread of corporate surveillance tools & platforms.
- Design tools to visualize and communicate the implications of corporate surveillance on everyday lives for policymakers & activists.
- Understand why people choose to engage with corporate surveillance products such as Amazon Ring cameras.

Personal data, ownership, and the commons

- How does commercialization of personal data extracted from daily human behaviors impact how that data is used for tools, platforms, and services that are framed as being in the public interest?
- Can current legal frameworks support the idea that personal data, aggregated and at scale, could be considered part of the public commons? Is that idea ethical?
- What are the most useful framings for thinking about the risks & benefits of personal data collection?

Art Exhibitions

The Atlas of Inequality

Mixed media: photo prints, digital touchscreen.

National Museum of China, Beijing

On exhibit in October 2019 as part of the 5th international TASIES exhibition.

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Publications & Talks

The tradeoff between the utility and risk of location data and implications for public good

Dan Calacci, Alex Berke, Kent Larson, Alex 'Sandy' Pentland
Oxford & London School of Economics Connected Life conference, 2019

Patterns of Interaction Predict Social Role in Online Learning

Cici Sun, **Dan Calacci**, Alex 'Sandy' Pentland
SBP-BRiMS 2018

Rhythm: A Unified Measurement Platform for Human Organizations

Oren Lederman, Akshay Mohan, **Dan Calacci**, and Alex 'Sandy' Pentland
IEEE 2017

Breakout: An Open Measurement and Intervention Tool for Distributed Peer Learning Groups

Dan Calacci, Oren Lederman, and Alex 'Sandy' Pentland
SBP-BRiMS 2016

Open Badges: A Low-Cost Toolkit for Measuring Team Communication and Dynamics

Oren Lederman, **Dan Calacci**, and Alex 'Sandy' Pentland
SBP-BRiMS 2016

Automatic Discovery of Partisan Campaigns, Agenda Setting, and Political Spin in Press Releases

Oren Tsur, **Dan Calacci**, and David Lazer
Computational Journalism, 2015

A Frame of Mind: Using Statistical Models for Detection of Framing and Agenda Setting Campaigns

Oren Tsur, **Dan Calacci**, and David Lazer
ACL-IJCNLP 2015

As Long as You Name My Name Right: Social Circles and Social Sentiment in the Hollywood Hearings

Oren Tsur, **Dan Calacci**, and David Lazer
Proceedings of ACL Joint Workshop on Social Dynamics and Personal Attributes (ACL 2014)

Workshop Sessions and Posters

Find My {}: Location Data, Surveillance, and the Commons

Dan Calacci, Becca Ricks, Nasser Eledroos
Session, Privacy & Security, MozFest 2019

Optimizing Inter-Agent Communication Networks for Improved Deep Reinforcement Learning

Dhaval Adjudah, **Dan Calacci**, Abhimanyu Dubey, Yan Leng, Peter Krafft, Esteban Moro, Alex 'Sandy' Pentland
NetSci 2018

Economical Segregation of Encounter Networks in Cities

Esteban Moro, **Dan Calacci**, Xiaowen Dong, Alex 'Sandy' Pentland
NetSci 2018

Improved Learning in Evolution Strategies via Sparser Inter-Agent Network Topologies

Dhaval Adjudah, **Dan Calacci**, Yan Leng, Peter Krafft, Esteban Moro, and Alex 'Sandy' Pentland
NiPS 2017

Exploring inter-group social contact using high-resolution geospatial data

Dan Calacci, Esteban Moro, Xiaowen Dong, Alex 'Sandy' Pentland
CCS 2017

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Separated by a common language? Using topic models in reconstructing networks of political influence and cooperation

Oren Tsur, **Dan Calacci**, and David Lazer
Polnet 2014

What you know and who you know: discussion networks and political knowledge

Katherine Ognyanova, **Dan Calacci**, and David Lazer (northeastern)
Michael Neblo, William Minozzi, and Brian Rubineau (Ohio State)
Polnet 2014

Media coverage

"Ring's Hidden Data Let Us Map Amazon's Sprawling Home Surveillance Network"

Gizmodo, web, December 2019.

"The 'Atlas of Inequality' Maps Micro-Level Segregation"

The Atlantic's CityLab, web, March 2019.

Community Work

Testified at the MA statehouse

Submitted oral testimony in favor of H.2701 & S.1876, the first AI oversight bills introduced in the Massachusetts Legislature.

Organizer, reimagine this place

Helped organize & co-hosted a feminist poster-making & performance benefit at the MIT Media Lab in the fall of 2019.

Co-Founder, we met online

Co-founded and co-host a semi-annual local art, poetry, & music series in Jamaica Plain, MA.

Other Projects

Horrorscope [node.js, react, custom face recognition]

A web app that discovers your innate spooky emoji for halloween, and superimposes it onto your face. Worn as part of a very silly halloween costume in 2019.

Adventur [Flask, MongoDB, Angular.js, Python, Pandas, Scipy]

A web application that measures a users' adventurousness using an n-gram & clustering based geo-trace model. Adventur won the **Most Innovative** prize at Hack Beanpot 2014.

Open Itinerary [Leaflet.js, Angular.js, Parse, Foursquare API, Flask]

A web app that makes it easy to create travel itineraries, get suggested places to visit, and share trip plans with others. It was a runner-up for **Hack with Most Potential** at Unhackathon 2014.

life-as-music [Flask, Pandas, Numpy, Clojure, Overtone]

A program that uses a generative algorithm to create music from Jawbone UP and Twitter data. It won **Best Use of Jawbone UP API** at Hack MIT 2014.

Technical Knowledge

Languages: R, Python, Javascript, Racket, emacs lisp, Java, Perl
Systems: GNU/Linux, emacs, Android, Mac/OSX
Software: Tensorflow, PyTorch, Pyro, keras, D3.js, IPython/Jupyter, Node.js, Meteor.js, React/Redux, Gephi, Django, Flask, Mapbox