



ALEX BERKE

<http://aberke.com>

aberke@mit.edu

Currently a Research Scientist at Google focused on improving privacy in our digital ecosystems.

EDUCATION

Massachusetts Institute of Technology

- 2025 PhD, Media Arts and Sciences
2020 MS, Media Arts and Sciences
GPA 5.0/5.0

Thesis: Transforming Digital Traces into Public Goods in the Age of Commercial Surveillance
Committee: Kent Larson, Alex Pentland, Latanya Sweeney

Brown University

- 2013 BA Mathematics & BA Computer Science
GPA 3.8/4.0

RESEARCH AREAS

Computational social science, privacy, behavioral economics, HCI, sustainability and transportation

PEER REVIEWED ARTICLES

- 2025 A. Berke, D. Calacci, A. Pentland, K. Larson.
Evaluating Amazon effects and the limited impact of COVID-19 with purchases crowdsourced from US consumers.
PLoS One. 2025.
- A. Berke, B. Ghazi, E. Bacis, P. Kamath, R. Kumar, R. Lassonde, P. Manurangsi, U. Syed.
How Unique is Whose Web Browser? The role of demographics in browser fingerprinting among US users.
Proceedings on Privacy Enhancing Technologies. 2025.
- 2024 A. Berke, R. Mahari, K. Larson, A. Pentland, D. Calacci.
Insights from an Experiment Crowdsourcing Data from Thousands of US Amazon Users: The Importance of Transparency, Money, and Data Use.
Proceedings of the ACM on Human-Computer Interaction (CSCW). 2024.
- A. Berke, D. Calacci, R. Mahari, T. Yabe, K. Larson, A. Pentland.
Open e-commerce 1.0, five years of crowdsourced U.S. Amazon purchase histories with user demographics.
Nature Scientific Data. 2024.
- A. Berke, W. Truitt, K Larson.
Is access to public bike-share networks equitable? A multiyear spatial analysis across 5 US Cities.
Journal of Transport Geography. 2024.

- 2023 A. Berke, G. Ding, C. Chin, K. Gopalakrishnan, K. Larson, H. Balakrishnan, M. Z. Li.
Drone delivery and the value of customer privacy: A discrete choice experiment with U.S. consumers.
Transportation Research Part C: Emerging Technologies. 2023.
- A. Berke and K. Larson.
The negative impact of vegetarian and vegan labels: Results from randomized controlled experiments with US consumers.
Appetite. 2023.
- 2022 A. Berke, R. Doorley, K. Larson, E. Moro.
Generating synthetic mobility data for a realistic population with RNNs to improve utility and privacy.
Proceedings of the 37th ACM/SIGAPP Symposium on Applied Computing. 2022.
- A. Berke and D. Calacci.
Privacy limitations of interest-based advertising on the web: A post-mortem empirical analysis of Google's FLoC.
Proceedings of the ACM Conference on Computer and Communications Security (CCS'22). 2022.
- A. Berke, R. Doorley, L. Alonso, V. Arroyo, M. Pons, K. Larson.
Using mobile phone data to estimate dynamic population changes and improve the understanding of a pandemic: A case study in Andorra.
PLoS ONE. 2022.
- A. Berke, R. Doorley, L. Alfonso, K. Larson.
Preserving Sustainability Gains of the COVID-19 Pandemic: A Case Study of MIT Campus Commuting.
Transportation Research Record. 2022.
- G. Ding, A. Berke, K. Gopalakrishnan, K. Degue, H. Balakrishnan, M. Z. Li.
Routing with Privacy for Drone Package Delivery Systems.
International Conference on Research in Air Transportation (ICRAT). 2022.
Best paper award.
- 2021 R. Doorley, A. Berke, A. Noyman, L. Alonso, J. Ribó, V. Arroyo, M. Pons, K. Larson.
Mobility and COVID-19 in Andorra: Country-scale analysis of high-resolution mobility patterns and infection spread.
IEEE Journal of Biomedical and Health Informatics. 2021.

BOOK

- 2020 A. Berke.
Beautiful Symmetry: A Coloring Book about Math.
MIT Press. 2020. <https://www.beautifulsymmetry.onl>

BOOK CHAPTERS

- 2024 A. Berke and K. Larson.
Mobile phones and their use to study dynamics of the COVID-19 pandemic.
Academic Press. 2024.

OPEN DATASETS

- 2024 A. Berke.
How Unique is Whose Web Browser? Browser attributes and demographics data.
Harvard Dataverse. 2024.
- 2023 A. Berke, D. Calacci, R. Mahari, T. Yabe, K. Larson, A. Pentland.
Open e-commerce 1.0: Five years of crowdsourced U.S. Amazon purchase histories with user demographics.
Harvard Dataverse. 2023.
Awarded MIT Prize for Open Data Honorable Mention.

POSTERS, EXTENDED ABSTRACTS & PREPRINTS

- 2025 A. Berke, B. Engedy, E. Bacis, Enrico, U. Syed.
Origin-Specific Coordinate Watermarking for Geolocation Data Leak Attribution.
Defensive publication. Technical Disclosure Commons. 2025.
- A. Berke, K. Larson, A. Pentland, D. Calacci.
Measuring risks inherent to our digital economies using Amazon purchase histories from US consumers.
Presented at The Workshop on Hot Topics in Privacy Enhancing Technologies (HotPETs 2025).
- 2024 A. Berke, T. South, R. Mahari, K. Larson, A. Pentland.
zkTax: A Pragmatic Way to Support Zero-Knowledge Tax Disclosures.
Poster in Proceedings of the ACM Conference on Computer and Communications Security (CCS'24). 2024.
- 2021 A. Berke, N. Lee, P. Chwalek.
Private Delivery Networks
Extended Abstract. Presented at the 3rd Workshop on Obfuscation. 2021.
- 2020 M. Bakker, A. Berke, M. Groh, A. Pentland, E. Moro.
Effect of social distancing measures in the New York City metropolitan area.
Preprint. 2020.
- A. Berke, M. Bakker, P. Vepakomma, K. Larson, A. Pentland.
Assessing disease exposure risk with location data: A proposal for cryptographic preservation of privacy.
Preprint. 2020.
- A. Berke and K. Larson.
Contact Tracing Technologies: Methods and trade-offs.
Report. 2020.
- 2019 D. Calacci, A. Berke, K. Larson, A. Pentland.
The tradeoff between the utility and risk of location data and implications for public good.
Preprint. Presented at the Oxford & London School of Economics Connected Life Conference. 2019.
- A. Berke, T. S. Lengeling, J. Nawyn, K. Larson.
Bike Swarm.
ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW). 2019.

PROFESSIONAL ROLES & EXPERIENCE

- 2025 - present Google. *Privacy research.*
Research Scientist.
- 2021 - 2025 The Brookings Institution. *Nonprofit think tank.*
Nonresident Senior Fellow in The Brookings Metro Program.
- 2022 - 2024 HackNY. *Nonprofit fellowship program, developing socially responsible tech leaders.*
Board of Directors.
- May - Aug 2024 Google. *Google Research & Privacy Sandbox team.*
Student Researcher (Part time, extending internship).
- Nov - Feb 2024 Google. *Google Research & Privacy Sandbox team.*
Research Intern.
- 2020 - 2022 Starlings Technology. *Peer-to-peer micromobility technology to improve street safety.*
Co-founder and Inventor.
- 2017 - 2018 Google. *Google Search team, focused on social impact projects within Search.*
Software Engineer.
- Mar - Jun 2017 Pioneer Works. *Artist and scientist-led nonprofit cultural center.*
Technology Artist Resident.
- 2016 Hillary For America. *Campaign headquarters for presidential candidate.*
Software Engineer, building data infrastructure.
- 2014 - 2016 Mast Mobile. *Startup building new mobile network. Technology acquired by Hearsay.*
Software Architect and Senior Engineer.
- Jun - Aug 2014 Blue Ridge Labs. *Social impact innovation lab, co-designing with NYC communities.*
Engineering Fellow.
- 2013 - 2014 Huffington Post Labs Group. *Building innovative tools for journalists and publishing.*
Lead Software Engineer.
- Jun - Aug 2013 Thinkful. *Education technology startup, acquired by Chegg.*
Full Stack Developer Intern.

TEACHING AND MENTORSHIP

- Fall 2025 *MIT Media Lab Alumni Mentorship program*
Mentored graduate student with shared research interests.
- 2022, 2024 *MIT Media Lab City Science course.*
Guest lecturer.
- 2019, 2020, 2022 *MIT Undergraduate Research Opportunities Project (UROP).*
Supervised undergraduate researchers.
- 2015 - 2016 *Common Denominator (previously Top Honors).*
Math tutor for NYC public school students (volunteer).
- Summer 2014 *HackNY, nonprofit fellowship program, developing socially responsible tech leaders.*
Mentor in residence.

- Brown University, Philip Klein's course in linear algebra for computer science.*
- Spring 2013 Head teaching assistant, managing team of TA's.
- Summer 2012 Curriculum writing assistant.
- Spring 2012 Teaching assistant.
- Cambridge Youth Soccer*
- Spring 2008 Head soccer coach for U-12 girls team (volunteer).

ACADEMIC SERVICE

- Peer Review IEEE Transactions on Dependable and Secure Computing (2025), Appetite (2024), Transportation Review Board (2023), MIT Press (2018)
- Sept 2023 Presented on sustainable catering changes to the MIT Media Lab's operations leaders, at the request of the Media Lab Director. *MIT Media Lab*.
- 2022 Faculty Search Committee Student Representative. *MIT Media Lab*.
- 2020 Curriculum co-design with librarians across the US, building on Beautiful Symmetry. *Public Library Innovation Exchange (PLIX)*.
- Spring 2019 Co-organized and facilitated discussion series about technologies developed at the Media Lab, with Black Mirror viewings and invited speakers. *MIT Media Lab*.

KEYNOTES, INVITED TALKS, PANELS, WORKSHOPS

- Aug 2025 *MOVES 2025 Conference at The National Museum of Mathematics (MoMath), NYC.*
Title: Bringing attention to the beauty of math around us in the age of digital distractions.
Keynote speaker.
- Jul 2025 *Privacy Enhancing Technologies Symposium (PETS)*. How Unique is Whose Web Browser?
The role of demographics in browser fingerprinting among US users.
- Jul 2025 *Workshop on Hot Topics in Privacy Enhancing Technologies (HotPETs 2025)*. Towards equitable PETs: A call to action for representative and open datasets with a browser fingerprinting case study.
- Nov 2024 *ACM Conference on Computer Supported Cooperative Work (CSCW)*. Insights from an experiment crowdsourcing data from thousands of US Amazon users: The importance of transparency, money, and data use.
- Oct 2022 *City Science Summit with The Norman Foster Foundation*. Low-Carbon Diet.
- Oct 2022 *MIT Technology Review's ClimateTech Conference*. Low-Carbon Diet.
- Apr 2022 *ACM Symposium on Applied Computing*. Generating synthetic mobility data for a realistic population with RNNs to improve utility and privacy.
- Apr 2022 *Gathering for Gardner Conference (G4G14)*. Mathematical coloring workshop.
- May 2021 *3rd Workshop on Obfuscation (virtual)*. Private Delivery Networks.
- Mar 2021 *The Exploratorium, SF, Member Programs event (virtual)*. Invited to lead a puzzle workshop.
- Mar 2021 *The Exploratorium, SF, After Dark Online (virtual)*. Invited presentation about Fractals.
- Feb 2021 *The Julia Robinson Mathematics Festival Problem Incubator (virtual)*. Invited presenter.

- Jul 2020 *SAI Computing Conference (virtual)*. Urban Mobility Swarms: A Scalable Implementation.
- Oct 2020 *The MIT Museum (virtual)*. Girls Day invited workshop.
- June 2020 *The synthetic data meetup (online)*. Invited speaker.
- April 2020 *Data Privacy in Times of Crisis (online)*. Invited speaker.
- Feb 2019 *Rutgers University (invited by Rutgers STEAM)*. Math and coloring workshop.
- Nov 2019 *ACM Conference on Computer Supported Cooperative Work (CSCW)*. Bike Swarm.
- Jun 2019 *The Oxford & London School of Economics Connected Life conference*. The tradeoff between the utility and risk of location data and implications for public good.
- Jul 2018 *NYC Salon*. Presented "A Mathematical Discussion with Color".
- Jun 2018 *New Rochelle's IDEALab*. "Creative Conversation" guest speaker.
- Jun 2018 *NYC HTML5*. Technical Talk: Building Art.
- Feb 2018 *Creative Coding NYC*. Building Interactive Art on the Web.
- Jan 2018 *The Recurse Center*. Mathematical Coloring Workshop and Discussion.
- Oct 2017 *Grace Hopper 2017 Conference*. Moderated panel "An Inside Perspective from the Hillary for America Tech Team". Presented 2x due to popularity at the conference.
- Jun 2017 *HackNY panel*. On navigating a career in New York City startups.
- Feb 2016 *Code Driven NYC*. Balancing consistency and availability in an intelligent phone network.
- Jan 2014 *NY Tech Meetup (audience of 800+)*. Presented Blogcast Invention.

SELECTED NON-ACADEMIC ARTICLES

- Dec 2022 Comment to Federal Trade Commission on Commercial Surveillance. *FTC*.
- Jan 2020 Crypto Voting and US Elections. *Personal blog*.
- Feb 2019 Arbitrage and Winning a Cryptocurrency Trading Competition at MIT. *The Celo Blog*.
- Dec 2013 Bitcoin Demystified: Security in Decentralization. *The Huffington Post*.
- Dec 2013 Bitcoin Demystified: Math vs. Government. *The Huffington Post*.
- Nov 2013 My Secret Life as a Bitcoin Miner - Part 1: The Basics. *The Huffington Post*.

ART EXHIBITIONS

- Dec - Mar 2019 CityScope with City Science Team. *At Cooper Hewitt, NYC*.
- Jun - Jul 2018 Wallpaper. *At Google NYC office*.
- May - Jun 2018 Wallpaper, Solo Exhibition. *At Babycastles, an independent gallery and game arcade, NYC*.
- May 2017 Second Sundays Community Wallpaper. *At Pioneer Works, NYC*.

SELECTED PRESS

- Aug 2023 *National Geographic*. Why don't more people go vegan? It could be the label.
- Jul 2023 *BBC Global News Podcast*. Interview about vegan label experiment results.
- Jul 2023 *The Times (UK)*. Why ditching vegan labels could help the planet.
- Aug 2020 *ABC Radio National (Australian public radio)*. Beautiful Symmetry (Interview).
- Aug 2020 *The Mathematical Association of America*. Review for Beautiful Symmetry: A Coloring Book About Math.
- Mar 2020 *The Guardian*. Can you solve it? Are you a master of reflection?
- Jan 2020 *US Vote Foundation*. If You Ever Read An Article on Online Voting: Make It This One.
- Oct 2017 *Mashable*. The energy at the Grace Hopper Celebration is enough to make you less cynical about tech.
- Aug 2014 *Venture Beat*. Can tech help NYC's low-income community? These 5 projects from Significance Labs just may.
- Jul 2014 *Forbes*. 3 Lessons For Building Tech for Low-Income Americans.