

SAM ZHANG

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ACADEMIC APPOINTMENTS

University of Vermont, Burlington, VT
Assistant Professor, Department of Mathematics and Statistics 2025 —
Core Team, Vermont Complex Systems Institute 2025 —

Santa Fe Institute, Santa Fe, NM
Applied Complexity Postdoctoral Fellow 2024 — 2025
Mentor: Cris Moore

EDUCATION

University of Colorado, Boulder, Boulder, CO 2019 — 2024
Ph.D. Applied Mathematics
Advisor: Aaron Clauset, Dan Larremore

Swarthmore College, Swarthmore, PA 2010 — 2014
B.A. Computer Science, Psychology

Thomas Jefferson High School for Science and Technology, Alexandria, VA 2006 — 2010

AWARDS AND HONORS

US Research Software Sustainability Institute (URSSI) Early-Career Fellow 2025

ICSSI Best Lightning Talk Award 2025

CU Boulder Department of Applied Mathematics PhD commencement speaker 2024

NSF Graduate Research Fellow 2019 — 2024

University of Chicago Rising Star in Data Science 2023

Eric & Wendy Schmidt Data Science for Social Good Fellow 2014

EMPLOYMENT

Microsoft Research NYC, New York, NY Summers 2021, 2022
Research Intern, Computational Social Science
Research intern with the Computational Social Science group at MSR NYC for two summers. Mentored by Jake Hofman and Dan Goldstein.

Human Rights Data Analysis Group, San Francisco, CA Fall 2022 — Present
Human Rights and Data Science Fellow
Developed Bayesian techniques for quantifying human rights violence.

OpenCounter, San Francisco, CA Jan 2017 — Jan 2018
Software Engineer
Fifth engineer on the team; created the vector search endpoint to business and residential permitting for over 50 cities, including San Diego, Detroit, and Orlando.

Pivotal Labs, San Francisco, CA and Arlington, VA Jul 2015 — Sep 2016
Software Engineer
Software consultant for enabling clients to do test-driven development, pair programming, and other best practices. DC office founding team member. Engineering lead on several major projects.

Giant Oak, Arlington, VA Sep 2014 — Jul 2015

PUBLICATIONS

† indicates alphabetical authorship.

1. **S. Zhang**, Nicholas LaBerge, Samuel F Way, Daniel B Larremore, and Aaron Clauset. Scientific productivity as a random walk. Submitted (2023). (Preprint at [arXiv:2309.04414](#))
2. **S. Zhang**, Patrick R Heck, Michelle N Myers, Christopher F Chabris, Daniel G Goldstein, and Jake M Hofman. An illusion of predictability in scientific results: Even experts confuse inferential uncertainty and outcome variability. *Proc. Natl. Acad. Sci. USA*, 120(33):e2302491120, 2023. (Paper at [10.1073/pnas.2302491120](#))
3. **S. Zhang**, K Hunter Wapman, Daniel B Larremore, and Aaron Clauset. Labor advantages drive the greater productivity of faculty at elite universities. *Science Advances*, 8(46), 2022. (Paper at [10.1126/sciadv.abq7056](#))
4. Mathew D Hardy, **S. Zhang**, Jessica Hullman, Jake M Hofman, and Daniel G Goldstein. Improving out-of-population prediction: The complementary effects of model assistance and judgmental bootstrapping. *International Journal of Forecasting*, 2024
5. Matthew W Bhagat-Conway and **S. Zhang**. Rush-hour-and-a-half: traffic is spreading out post-lockdown. *PLOS ONE*, 18(9):e0290534, 2023. (Paper at [10.1371/journal.pone.0290534](#))
6. Katie Spoon, Nicholas LaBerge, K Hunter Wapman, **S. Zhang**, Allison C Morgan, Mirta Galesic, Daniel B Larremore, and Aaron Clauset. Gender and retention patterns among U.S. faculty. *Science Advances*, 9(42), 2023. (Paper at [10.1126/sciadv.adi2205](#))
7. Rayna Benzeev, **S. Zhang**, Marcelo Rauber Rauber, Eric A Vance, and Peter Newton. Formalizing tenure of Indigenous lands improved forest outcomes in the Atlantic Forest of Brazil. *PNAS Nexus*, 2, 2023. (Paper at [10.1093/pnasnexus/pgac287](#))
8. K Hunter Wapman, **S. Zhang**, Aaron Clauset, and Daniel B Larremore. Quantifying hierarchy and dynamics in U.S. faculty hiring and retention. *Nature*, 610(7930):120–127, 2022. (Paper at [10.1038/s41586-022-05222-x](#))
9. Weihua Li, **S. Zhang**, Zhiming Zheng, Skyler J Cranmer, and Aaron Clauset. Untangling the network effects of productivity and prominence among scientists. *Nature Communications*, 13:4907, 2022. (Paper at [10.1038/s41467-022-32604-6](#))
10. Nicholas LaBerge, K Hunter Wapman, Allison C Morgan, **S. Zhang**, Daniel B Larremore, and Aaron Clauset. Subfield prestige and gender inequality in computing. *Communications of the ACM*, 65(12):46–55, 2022. (Paper at [10.1145/3535510](#))
11. † Satyan L Devadoss, Matthew S Harvey, and **S. Zhang**. Visualizing and Unfolding Nets of 4-Polytopes. In *38th International Symposium on Computational Geometry (SoCG 2022)*, 2022. (Paper at [10.4230/LIPIcs.SocG.2022.67](#))
12. Daniel B Larremore, Bailey K Fosdick, **S. Zhang**, and Yonatan H Grad. Optimizing prevalence estimates for a novel pathogen by reducing uncertainty in test characteristics. *Epidemics*, 41, 2022. (Paper at [10.1016/j.epidem.2022.100634](#))
13. Daniel B Larremore, Bailey K Fosdick, Kate M Bubar, **S. Zhang**, Stephen M Kissler, C Jessica E Metcalf, Caroline O Buckee, and Yonatan H Grad. Estimating SARS-CoV-2 seroprevalence and epidemiological parameters with uncertainty from serological surveys. *eLife*, 10:e64206, 2021. (Paper at [10.7554/eLife.64206](#))

CONSULTING

Human Rights Data Analysis Group, San Francisco, CA Fall 2022 — 2024
Human Rights and Data Science Fellow
Consulting for HRDAG after my fellowship. Continuing to develop statistical techniques for quantifying human rights violence.

ProPublica, New York City, NY September 2017 — October 2017
Consultant
Data science contractor on the ProPublica “Documenting Hate” project.

PANELS

Representing the Santa Fe Institute at COP30 Climate Week, Panama City, Panama May 2025

Early-career panelist on NSF and AAAS event where the NIH, NSF, NASA, DOE, and DOD unveiled their public access plans for the first time [tinyurl.com/nsf-aaas-webinar] 2023

WORKSHOPS

Collective Social Phenomena: Dynamics and Data, Casa Matemática Oaxaca, Oaxaca, MX June 2025

Inference and Prediction in Complex Social Systems, SIAM DS, Denver, CO May 2025

Principled Data Processing Hack Week, HRDAG, San Francisco, CA Apr 2025

Governance Institutions for a Polycentric Electric Power Grid, Santa Fe Institute Apr 2025

Measuring AI in the World, DeepMind-hosted Workshop, Santa Fe, NM Mar 2025

Social Aspects of Science and Innovation Workshop, University of Missouri, Columbia, MO Mar 2025

(Host) Historical Prestige Hierarchies Micro Working Group, Santa Fe Institute Dec 2024

Emergent Engineering Working Group, Santa Fe Institute Nov 2024

Collaborate@ICERM, Providence, RI May 2024

University of Chicago Rising Stars in Data Science, Chicago, IL Nov 2023

Vermont-KIAS Workshop on Group Interactions in Network Science, Burlington, VT Sep 2023

Contagion on Complex Social Systems, University of Vermont, Burlington, VT Aug 2023

Data Science and Social Justice, ICERM, Providence, RI Jul 2023

AMS Mathematics Research Community on Complex Social Systems, Java Center, NY Jun 2023

Science of Science Micro Working Group, Santa Fe Institute Jan 2023

A New Synthesis for the Science of Science, Santa Fe Institute, NM May 2022

The Dynamics of Social Interactions, Aspen Center for Physics, CO Apr 2022

Southern Poverty Law Center, Montgomery, AL Apr 2017

TALKS AND POSTERS

(Talk; **Best Lightning Talk Award!**) ICSSI, Copenhagen June 2025

(Invited talk) Casa Matemática Oaxaca, Oaxaca, Mexico May 2025

(Invited talk) SIAM Dynamical Systems, Denver, CO May 2025

(Invited talk) Pareto, San Francisco, CA Apr 2025

(Invited talk) Structural Democracy Seminar, Cornell University Apr 2025

(Invited talk) Nationwide Children’s Hospital and The Ohio State University Jan 2025

(Invited talk) Santa Fe Institute Winter Donor Appreciation Event Dec 2024

(Invited talk) Network Science Institute, Northeastern University, Boston, MA Dec 2024

(Invited talk) MassMutual Center in Complex Systems and Data Science, Burlington, VT Nov 2024

(Invited talk) ReproducibiliTea, University of College London–University of Lausanne Oct 2024

(Talk) IC2S2, Philadelphia, PA Jul 2024

(Invited talk) WNAR Annual Conference, Ft. Collins, CO Jun 2024

(Invited talk) Microsoft Research Computational Social Science Group, New York, NY Feb 2024

(Invited talk) Santa Fe Institute Postdoc Seminar, Santa Fe, NM	Jan 2024
(Talk) University of Chicago Rising Stars in Data Science, Chicago, IL	Nov 2023
(Invited talk) University of Vermont SCRaPS seminar, Burlington, VT	Oct 2023
(Invited talk) University of Vermont Statistics Colloquium, Burlington, VT	Oct 2023
(Invited talk) Vermont-KIAS Workshop, Burlington, VT	Sep 2023
(Invited talk) Academic Analytics Research Center	Aug 2023
(Talk x2) IC2S2, Copenhagen	Jul 2023
(Poster) NetSci, Vienna	Jul 2023
(Talk) Network Inequality Satellite, NetSci, Vienna	Jul 2023
(Invited talk) MIT Media Lab, Boston, MA	Jun 2023
(Invited talk) ICERM, Providence, RI	Jun 2023
(Talk x2) Atlanta Conference on Science and Innovation Policy, Atlanta, GA	May 2023
(Talk) Math for All Boulder satellite, Boulder, CO	Feb 2023
(Talk) Dynamics Days	Jan 2023
(Talk) International Conference on the Science of Science and Innovation (ICSSI), DC	Jun 2022
(Poster) International Conference on the Science of Science and Innovation (ICSSI), DC	Jun 2022
(Talk) 31st International Computational Geometry Media Exposition (CG:ME)	Jun 2022
(Talk) The Dynamics of Social Interactions, Aspen Center for Physics, Aspen, CO	Apr 2022
(Invited talk) Deformation Theory Seminar, UPenn	Dec 2021
(Invited talk) Transportation Research Seminar, UNC	Dec 2021
(Talk) IC2S2, ETH Zurich	Jul 2021
(Poster) IC2S2, MIT	Jun 2020
(Invited talk) Topology Seminar, CU Boulder, Boulder, CO	Mar 2020

TEACHING ASSISTANTSHIPS AND COURSE ASSISTANCE

<i>University of Colorado, Boulder</i>	
Statistical Collaboration	Spring 2023
Biological Networks	Spring 2021
Calculus 3 for Engineers (TA)	Fall 2019
Linear Algebra for Non-Math Majors	Spring 2019
Number Systems: An introduction to higher mathematics	Fall 2018

PROFESSIONAL SERVICE

Reviewer for

PNAS, Nature Communications, Nature Human Behaviour, Nature Scientific Data, Physical Review X, PLOS ONE, PLOS Biology

Program Committees

FAccT	2023
IC2S2	2023, 2024, 2025

Institutional Committees and Service

Treasurer, Communications Workers of America (CWA) Local 7799	2022–2024
CU Graduate and Family Housing Residents Council, elected council member	2022–2023
Secretary-Treasurer, Communications Workers of America (CWA) Local 7799	2021–2022
Steering committee, United Campus Workers Colorado	2020–2022
CU Applied Mathematics Graduate Committee, elected graduate representative	2021–2022
CU Applied Mathematics Graduate Student Seminar founder/facilitator	2021–2022

Other Service

CA Racial Justice Act Data and Research Consortium, Research Working Group Co-Chair	2025
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City of Boulder, Police Oversight Committee (Legacy Committee co-chair)	2023
Data Science for Social Good Fellowship, application review committee	2022
Solve for Good Summer, project scoper	2020
Boulder/Denver Data for Democracy chapter, cofounder/lead organizer	2017–2019