Serina Chang

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Most Recent CV Here

ACADEMIC POSITIONS

University of California, Berkeley, Berkeley, CA — 2025-present
Assistant Professor, Department of Electrical Engineering and Computer Science (50%), UCSF UC Berkeley Joint Program in Computational Precision Health (50%)

Microsoft Research, New York, NY — 2024-2025
Postdoctoral Researcher, Computational Social Science group

EDUCATION

Stanford University, Stanford, CA — 2019-2024
Ph.D., Computer Science
Advisors: Jure Leskovec, Johan Ugander; *Thesis committee*: Dan Jurafsky, Eric Horvitz
Dissertation: "Computational Methods for Human Networks and High-Stakes Decisions"

Columbia University, New York, NY — 2015-2019
B.A., Computer Science (major), Sociology (concentration), *magna cum laude*
Advisor: Kathleen McKeown

HONORS

ACM SIGKDD Dissertation Award	2025
Google Research Scholar Award	2025
Rising Stars in Data Science, University of Chicago and University of California San Diego	2023
EECS Rising Stars, Georgia Institute of Technology	2023
Future Faculty Symposium Scholar, Cornell University	2023
Meta PhD Fellowship, Computational Social Science	2022
ACM SIGKDD 2021 Best Paper Award, Applied Data Science Track	2021
Graduate Research Fellowship, National Science Foundation	2019
The Finch Family Fellowship, Stanford University, School of Engineering	2019
Outstanding Undergraduate Researcher Award, Computing Research Association	2019
Phi Beta Kappa, Columbia University	2019
Theodore R. Bashkow Award, Columbia University, Computer Science	2019
Academic Excellence Award, Columbia University, Computer Science	2019
King's Crown Leadership Award, Innovation and Enhancement, Columbia University	2018
Dean's List (all semesters), Columbia University	2015-2019

PAPERS

*indicates co-first authorship.

[22] What Do Large Language Models Know About Opinions?
Erfan Jahanparast, Zhiqing Hong, and **Serina Chang**
Under review

[21] Rethinking LLM Human Simulation: When a Graph is What You Need
Joseph Suh, Suhong Moon, and **Serina Chang**
Under review

[20] Valid Survey Simulations with Limited Human Data: The Roles of Prompting, Fine-Tuning, and Rectification
Stefan Krsteski, Giuseppe Russo, **Serina Chang**, Robert West, and Kristina Gligorić
Under review

[19] Same Event, Different Truths: How Next-Generation Social Media Platforms Reframe Political Events
Mao Li, Xinyi Chen, and **Serina Chang**
Under review

[18] ChatBench: From Static Benchmarks to Human-AI Evaluation
Serina Chang, Ashton Anderson, and Jake Hofman
ACL 2025 (main)

[17] Language Model Fine-Tuning on Scaled Survey Data for Predicting Distributions of Public Opinions
Joseph Suh*, Erfan Jahanparast*, Suhong Moon*, Minwoo Kang*, and **Serina Chang**
ACL 2025 (main)
Also presented at American Association for Public Opinion Research (AAPOR) Conference 2025 (oral) and the Social Sim and NLPOR Workshops at COLM 2025

[16] LLMs generate structurally realistic social networks but overestimate political homophily
Serina Chang*, Alicja Chaszczewicz*, Emma Wang, Maya Josifovska, Emma Pierson, and Jure Leskovec
ICWSM 2025
Also presented at IC^{2}S^2 2024 as **Plenary Talk** (2.8% of submissions)

[15] Learning production functions for supply chains with graph neural networks
Serina Chang, Zhiyin Lin, Benjamin Yan, Swapnil Bembde, Qi Xiu, Chi Heem Wong, Yu Qin, Frank Kloster, Xi Luo, Raj Palleti, and Jure Leskovec
AAAI 2025 (oral, 4.9% of submissions)
Also presented at Stanford Graph Learning Workshop 2023 and Stanford Causal Science Conference 2023

[14] Artificial intelligence for modelling infectious disease epidemics
Moritz U. G. Kraemer*, Joseph L.-H. Tsui*, **Serina Chang***, Spyros Lytras, Mark P. Khurana, Samantha Vanderslott, Sumali Bajaj, Neil Scheidwasser, Jacob Liam Curran-Sebastian, ..., and Samir Bhatt
Nature 2025

[13] Measuring vaccination coverage and concerns of vaccine holdouts from web search logs
Serina Chang, Adam Fourney, and Eric Horvitz
Nature Communications 2024
Also presented at KDD 2023 Workshop on Epidemiology Meets Data Mining and Knowledge Discovery (oral); KDD 2023 Workshop on Data Science for Social Good (oral); IC^{2}S^2 2024 (oral)

[12] Inferring dynamic networks from marginals with iterative proportional fitting
Serina Chang*, Frederic Koehler*, Zhaonan Qu*, Jure Leskovec, and Johan Ugander
ICML 2024
Also presented at *Learning on Graphs* 2023

[11] Estimating geographic spillover effects of COVID-19 policies from large-scale mobility networks
Serina Chang, Damir Vrabac, Jure Leskovec, and Johan Ugander
AAAI 2023
Also presented at KDD 2022 Workshop on Data-driven Humanitarian Mapping and Policymaking (oral); IC^{2}S^2 2022

[10] Computational analysis of 140 years of US political speeches reveals more positive but increasingly polarized framing of immigration
Dallas Card, **Serina Chang**, Chris Becker, Julia Mendelsohn, Rob Voigt, Leah Boustan, Ran Abramitzky, and Dan Jurafsky
PNAS 2022
Also presented at *Conference on New Directions in Analyzing Text as Data* (TADA) 2021 (oral)

[9] To recommend or not? A model-based comparison of item-matching processes
Serina Chang and Johan Ugander
ICWSM 2022 (oral)
Also presented at IC^{2}S^2 2021 (oral)

[8] Data-driven real-time strategic placement of mobile vaccine distribution sites
Zakaria Mehrab, Mandy Wilson, **Serina Chang**, Galen Harrison, Bryan L. Lewis, Alex Tellionis, Justin Crowe, Dennis Kim, Scott Spillman, Kate Peters, Jure Leskovec, and Madhav Marathe
IAAI 2022

[7] Supporting COVID-19 policy response with large-scale mobility-based modeling
Serina Chang, Mandy Wilson, Bryan Lewis, Zakaria Mehrab, Komal K. Dudakiya, Emma Pierson, Pang Wei Koh, Jaline Gerardin, Beth Redbird, David Grusky, Madhav Marathe, and Jure Leskovec
KDD 2021 (oral)
Best Paper Award, Applied Data Science Track (1 out of 705 submissions)

[6] Mobility network models of COVID-19 explain inequities and inform reopening
Serina Chang*, Emma Pierson*, Pang Wei Koh*, Jaline Gerardin, Beth Redbird, David Grusky, and Jure Leskovec
Nature 2021
Also presented at Networks 2021 (oral); NeurIPS 2020 COVID-19 Symposium (invited talk); NeurIPS 2020 Machine Learning for Health Workshop
Coverage in 650+ news outlets, including *The New York Times* and *The Washington Post*; ranked as #3 most online impact among 901 similar-age papers published by *Nature* (metrics)

[5] Epidemic dynamics in inhomogeneous populations and the role of superspreaders
Kyle Kawagoe*, Mark Rychnovsky*, **Serina Chang**, Greg Huber, Lucy M. Li, Jonathan Miller, Reuven Pnini, Boris Veytsman, and David Yllanes
Physical Review Research 2021

[4] The socioeconomic mobility gap: disparities in the COVID-19 pandemic
Maya Josifovska, **Serina Chang**, and Jure Leskovec
Presented at IC^2S^2 2021

[3] Automatically inferring gender associations from language
Serina Chang and Kathleen McKeown
EMNLP 2019 (oral, short paper)

[2] Detecting gang-involved escalation on social media using context
Serina Chang, Ruiqi Zhong, Ethan Adams, Fei-Tzin Lee, Siddharth Varia, Desmond Patton, William Frey, Chris Kedzie, and Kathleen McKeown
EMNLP 2018 (oral, long paper)

[1] Crowd-sourced iterative annotation for narrative summarization corpora
Jessica Ouyang, **Serina Chang**, and Kathleen McKeown
EACL 2017 (oral, short paper)

INVITED TALKS

UVA Workshop on Social Contagions, Artificial Intelligence, and Democracy (**Keynote**)	2025
Conference on AI and Statistics, ISU and National Institute of Statistical Sciences (**Plenary**)	2025
WHO Pandemic and Epidemic Intelligence Innovation Forum	2025
UC Berkeley EECS Colloquium	2025
EPINEXT: Next-gen Methods for Data-Rich Epidemic Models (satellite of CCS2025)	2025
UC Berkeley Biostatistics Seminar	2025
Frontiers in Computational Health, Berkeley, CA	2025
CHI 2025 Panels, “Opportunities and Challenges of Applying LLM-Simulated Data to HCI Studies”	2025
Princeton, Machine Behavior (COS 598B)	2025
UCSF, Deep Learning for Biological and Clinical Research (BMI/BioE 212)	2025
Stanford, AI Agents and Simulations (CS 222)	2024
MIT, Initiative on Digital Economy (IDE) Seminar	2024
Learning on Graphs Conference, NYC Meetup	2024
UC Berkeley, Computational Precision Health Doctoral Seminar	2024
CMU, AI and Emerging Economies (Course 94-894)	2024
Cornell Tech, Urban Data (INFO 5430)	2024
Public Health Insight Podcast	2024
Oxford, Networks Seminar	2024
Stanford, Big Data Methods for Behavioral, Social, and Population Health Research (EPI 270)	2024
CMU School of Computer Science, Machine Learning Department	2024
UC Berkeley, EECS Department & Computational Precision Health	2024
University of Illinois Urbana-Champaign, Department of Computer Science	2024
AAAI’24 Workshop on Graphs and More Complex Structures for Learning and Reasoning	2024
University of Washington, Paul G. Allen School of Computer Science & Engineering	2024
Microsoft Research NYC, Computational Social Science	2024
Columbia Business School, Decision, Risk, and Operations Division	2024
Cornell, Departments of Computer Science & Information Science	2023
Johns Hopkins, Department of Computer Science	2023
MIT, Department of Political Science & Schwarzman College of Computing	2023

NYU Stern School of Business, Department of Technology, Operations, and Statistics 2023
Learning on Graphs Conference, Stanford Meetup 2023
Northeastern, Network Science Institute Seminar 2023
Cornell Tech, Applied Data Science: Decision-Making Beyond Prediction (ORIE 5355) 2023
Stanford, Graph Learning Workshop 2023
Columbia, Analysis of Networks and Crowds (COMS 6998) 2023
Cornell Tech, Data Science for Social Change (CS 6382) 2023
NSF Predictive Intelligence for Pandemic Prevention (PIPP), PandEval Research Team 2023
NIH National COVID Cohort Collaborative (N3C), Machine Learning Seminar 2023
Stanford, Algorithmic Fairness Seminar 2023
Stanford, Networks (MS&E 135) 2023
Meta, Computational Social Science Seminar 2023
Stanford, Introduction to Computational Social Science (MS&E 231) 2022
Stanford, Fundamental Concepts in MS&E (MS&E 302) 2022
OECD-ODISSEI Webinar on Open Data Infrastructure 2021
Data Science Connect Conference 2021
March for Science Podcast 2021
PathCheck Global Health Innovators Seminar 2021
Diaries of Social Data Research Podcast 2021
NeurIPS, COVID-19 Symposium 2020
AI Science Spotlight Series 2020
Global Pervasive Computational Epidemiology Seminar 2020
The Octavian Report Podcast 2020
Placekey Community Seminar 2020
Stanford, Stats ML Retreat 2020

WORK EXPERIENCE

AI Advisor, United Nations Development Programme (UNDP) 2024
- Served as AI Advisor on "Project Vision: AI Unveils Tomorrow", which seeks to use AI to analyze how countries are responding to impending risks (e.g., climate change, pandemics, democratic backsliding) and adapting their development strategies

Research Intern, Microsoft Research 2022-2024
- Developed graph ML methods to mine search logs and derive public health insights. See Chang, Fourney, and Horvitz, "Measuring vaccination coverage and concerns of vaccine holdouts from web search logs", *Nature Communications* (2024).

Software Engineering Intern, Google, Geo Assistant 2018
- Built a new, user-facing feature for Google Search and Assistant; implemented changes from backend to frontend

Engineering Practicum Intern, Google, Search Site Reliability Engineering (SRE) 2017
- Improved internal tools for monitoring and tracking requests to Google Now

TEACHING

Instructor, UC Berkeley, Machine Learning and Human Behavior (CS294-286) 2025
- This is a new graduate-level CS course that I created with projects, paper readings, and paper presentations
- Course material explores the intersection of ML and human behavior, including modeling human behaviors with ML, algorithmically infused societies (e.g., recommender systems), and human-AI interaction

Head course assistant (CA), Stanford University, Machine Learning with Graphs (CS224W) 2021
- Managed team of 9 CAs and class of around 300 students; oversaw lecture slides, assignments, exams, and final projects
- Course material covers the foundations and state-of-the-art of machine learning with graphs, including representation learning, graph neural networks, reasoning over knowledge graphs, and algorithms for large-scale networks

Instructor, Girls Who Code, Summer Immersion Program 2019
- Served as the primary teacher for a classroom of 20 high school girls
- Taught a 7-week curriculum including Python, HTML, CSS, JavaScript, and Arduino

Instructional assistant, Columbia University, Data Structures in Java (COMS 3134) 2017
- Led discussion sections, held weekly office hours, and graded assignments and exams

Peer tutor, Columbia University, Computer Science Theory (COMS 3261) 2017

ADVISING

Advising as Faculty, UC Berkeley
PhD: Joseph Suh (Berkeley EECS, co-advised with John Canny), Zhiqing Hong (Berkeley visiting student from Rutgers CS)
Master's: Jessie Li (Berkeley Biostatistics)
Undergraduate: Murari Ganesan, Erfan Jahanparast, Steven Luo, Jonathan Ngai (Berkeley)

Research mentees during PhD, Stanford University
PhD: Alicja Chaszczewicz (Stanford CS), Jordan Troutman (Stanford CS)
Master's: Damir Vrabac (Stanford CS)
Undergraduate: Zhiyin Lin, Daisuke Masuda, Emma Wang, Benjamin Yan (Stanford); Maya Josifovska (UCLA)

SERVICE

Organization

Co-Organizer, NeurIPS Workshop on Behavioral Machine Learning	2024
Co-Organizer, KDD Workshop on Epidemiology meets Data Mining and Knowledge discovery	2024
Program Chair, Machine Learning for Health (ML4H)	2023
Co-Organizer, KDD Workshop on Data Science for Social Good	2023
Panel Moderator, KDD Equity, Diversity & Inclusion (EDI) Day	2023
Faculty Search Committee, Stanford Data Science and School of Engineering	2023
Organizer, NYC Digital Humanities Week, Using Computation to Analyze Gender in Film	2019

Journal reviewer

Proceedings of the National Academy of Sciences (PNAS)	2025
The New England Journal of Medicine AI (NEJM AI)	2024
Proceedings of the National Academy of Sciences (PNAS)	2024
Science Advances	2023
Nature Human Behaviour	2022
American Journal of Sociology	2021
ACM Transactions on Spatial Algorithms and Systems	2021
npj Urban Sustainability	2021

Conference reviewer

Machine Learning for Health, Area Chair	2025
AAAI, Special Track on AI for Social Impact, Senior Program Committee	2025
ACL Rolling Review	2025
UIST	2025
WWW	2025
AAAI	2025
Machine Learning for Health	2024
International Conference on Computational Social Science (IC^2S^2)	2024
KDD, epiDAMIK Workshop	2024
AAAI	2024
EMLNP	2024
Machine Learning for Health	2023
ACL Rolling Review	2023
ICWSM	2023
KDD, epiDAMIK Workshop	2023
KDD, Data Science for Social Good Workshop	2023
ACL Rolling Review	2022
Machine Learning for Health	2022
ACL, NLP for Positive Impact Workshop	2022
KDD, epiDAMIK Workshop	2022
ACL-IJCNLP	2021
Machine Learning for Health	2021
ACL, NLP for Positive Impact Workshop	2021
ICLR, AI for Public Health Workshop	2021

Mentorship

IJCNLP-AACL Student Research Workshop, Mentor	2025
International Conference for Computational Social Science (IC^2S^2), Mentor	2024
Stanford Computer Science, CURIS (undergraduate summer research), Mentor	2023
Machine Learning for Health (ML4H), Career Mentorship Program	2023
Stanford Computer Science, Undergraduate Mentoring Program	2022
Stanford Engineering, Summer Undergraduate Research Fellowship, Mentor	2021