

ANSON KAHNG

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RESEARCH INTERESTS

Computational Social Choice, Theoretical Computer Science, Artificial Intelligence, Economics.

ACADEMIC POSITIONS

University of Rochester, Rochester, NY *July 2022 - Present*
Assistant Professor in Computer Science (CS) and Data Science (GIDS)

University of Toronto, Toronto, ON *August 2021 - August 2022*
Postdoctoral Fellow in Computer Science
Advisor: Nisarg Shah

EDUCATION

Carnegie Mellon University, Pittsburgh, PA *August 2016 - August 2021*
Ph.D. in Computer Science
Advisor: Ariel Procaccia

Harvard University, Cambridge, MA *August 2012 - May 2016*
Bachelor of Arts in Computer Science, *cum laude*
Advisor: David Parkes

INDUSTRY EXPERIENCE

Microsoft Research, New York, NY *May 2019 - August 2019*
Graduate Research Intern
Supervised by David Pennock and Rupert Freeman. Worked on multi-winner elections and pari-mutuel wagering mechanisms.

Google, Mountain View, CA *June 2014 - August 2014*
Software Engineering Intern
Worked on datacenter software and repairs accuracy. Ran large-scale data mining and developed machine learning algorithms on fleet-wide datacenter statistics.

JOURNAL PUBLICATIONS

(α): alphabetical author ordering

Optimized Distortion and Proportional Fairness in Voting *TEAC 2023*
(α) Soroush Ebadian, Anson Kahng, Dominik Peters, and Nisarg Shah
ACM Transactions on Economics and Computation (TEAC)
Supersedes EC 2022

High-Throughput Cryo-ET Structural Pattern Mining by Unsupervised Deep Iterative Subtomogram Clustering *PNAS 2023*
Xiangrui Zeng, Anson Kahng, Liang Xue, Julia Mahamid, Yi-Wei Chang, and Min Xu
Proceedings of the National Academy of Sciences (PNAS)

Liquid Democracy: An Algorithmic Perspective *JAIR 2021*
(α) Anson Kahng, Simon Mackenzie, and Ariel D. Procaccia
Journal of Artificial Intelligence Research (JAIR)
Supersedes AAI 2018

The Fluid Dynamics of Liquid Democracy *TEAC 2021*
(α) Paul Gözl, Anson Kahng, Simon Mackenzie, and Ariel D. Procaccia

WeBuildAI:

CSCW 2019

Participatory Framework for Fair and Efficient Algorithmic Governance

Min Kyung Lee, Daniel Kusbit, Anson Kahng, Ji Tae Kim, Xinran Yuan, Allissa Chan, Ritesh Noothigattu, Daniel See, Siheon Lee, Alex Psomas, and Ariel D. Procaccia
Computer Supported Cooperative Work (CSCW)

CONFERENCE PUBLICATIONS

(α): alphabetical author ordering

Sampling Winners in Ranked Choice Voting

IJCAI 2024

(α) Matthew Iceland, Anson Kahng, and Joseph Saber
33rd International Joint Conference on Artificial Intelligence (IJCAI-24)

Voting with Preference Intensities

AAAI 2023

(α) Anson Kahng, Mohamad Latifian, and Nisarg Shah
37th AAAI Conference on Artificial Intelligence (AAAI-23)

Optimized Distortion and Proportional Fairness in Voting

EC 2022

(α) Soroush Ebadian, Anson Kahng, Dominik Peters, and Nisarg Shah
23rd ACM Conference on Economics and Computation (EC-22)

Worst-Case Voting When the Stakes Are High

AAAI 2022

(α) Anson Kahng and Gregory Kehne
36th AAAI Conference on Artificial Intelligence (AAAI-22)

District-Fair Participatory Budgeting

AAAI 2021

(α) D Ellis Hershkowitz, Anson Kahng, Dominik Peters, and Ariel D. Procaccia
35th AAAI Conference on Artificial Intelligence (AAAI-21)

Mean Estimation from Multiple-Choice Questions

ICML 2020

(α) Anson Kahng, Gregory Kehne, and Ariel D. Procaccia
37th International Conference on Machine Learning (ICML-20)

Proportionality in Approval-Based Elections With a Variable Number of Winners

IJCAI 2020

(α) Rupert Freeman, Anson Kahng, and David M. Pennock
29th International Joint Conference on Artificial Intelligence (IJCAI-20)

HirePeer:

AAAI 2020

Impartial Peer-Assessed Hiring at Scale in Expert Crowdsourcing Markets

Yasmine Kotturi, Anson Kahng, Ariel D. Procaccia, and Chinmay Kulkarni
34th AAAI Conference on Artificial Intelligence (AAAI-20)

Computationally-Aware Data Aggregation

ITCS 2020

(α) Bernhard Haeupler, D Ellis Hershkowitz, Anson Kahng, and Ariel D. Procaccia
11th Innovations in Theoretical Computer Science (ITCS-20)

Paradoxes in Fair Machine Learning

NeurIPS 2019

(α) Paul Gözl, Anson Kahng, and Ariel D. Procaccia
NeurIPS Spotlight Presentation (2.5% of submissions)
33rd Conference on Neural Information Processing (NeurIPS-19)

Statistical Foundations of Virtual Democracy

ICML 2019

(α) Anson Kahng, Min Kyung Lee, Ritesh Noothigattu, Ariel D. Procaccia, and Alex Psomas
36th International Conference on Machine Learning (ICML-19)

The Fluid Dynamics of Liquid Democracy

WINE 2018

(α) Paul Gözl, Anson Kahng, Simon Mackenzie, and Ariel D. Procaccia
14th Conference on Web and Internet Economics (WINE-18)

Liquid Democracy: An Algorithmic Perspective

AAAI 2018

(α) Anson Kahng, Simon Mackenzie, and Ariel D. Procaccia
32nd AAAI Conference on Artificial Intelligence (AAAI-18)

Ranking Wily People Who Rank Each Other

AAAI 2018

(α) Anson Kahng, Yasmine Kotturi, Chinmay Kulkarni, David Kurokawa, and Ariel D. Procaccia
32nd AAAI Conference on Artificial Intelligence (AAAI-18)

Making Right Decisions Based on Wrong Opinions

EC 2017

(α) Gerdus Benadè, Anson Kahng, and Ariel D. Procaccia
18th ACM Conference on Economics and Computation (EC-17)

THESES

Computational Perspectives on Democracy

2021

Carnegie Mellon University PhD Thesis
Advised by Ariel Procaccia

Timing Objectives in Dynamic Kidney Exchange

2016

Harvard College Undergraduate Honors Thesis
Advised by David Parkes

TEACHING

CSC 289/489: Algorithmic Game Theory

Spring 2024

University of Rochester
Instructor

DSCC/CSC 462: Computational Introduction to Statistics

Fall 2023

University of Rochester
Instructor

CSC 289/489: Algorithmic Game Theory

Spring 2023

University of Rochester
Instructor

DSCC/CSC 462: Computational Introduction to Statistics

Fall 2022

University of Rochester
Instructor

Diversity, Equity, and Inclusion in Computer Science and Society (15-996B)

Spring 2021

Carnegie Mellon, Pilot Course
Discussion Moderator and Graduate Teaching Assistant

Truth, Justice, and Algorithms (15-896), Carnegie Mellon

Fall 2018

Graduate Teaching Assistant

Graduate Artificial Intelligence (15-780), Carnegie Mellon

Spring 2017

Graduate Teaching Assistant

Networks (CS 134), Harvard University

Fall 2015

Undergraduate Teaching Fellow

SERVICE

Conference PC Member

NeurIPS-24 (Area Chair), EAAMO-24, EC-24, IJCAI-24, FAccT-24, AAMAS-24, NeurIPS-23, EAAMO-23, EC-23, AAAI-23, AAMAS-22, EAAMO-22, EC-22, IJCAI-22, NeurIPS-22, AAAI-22, EAAMO-21, EC-21, ICML-21, IJCAI-21 (SPC), AAAI-21, NeurIPS-20, ICML-20, AAAI-20, SAGT-19

Journal Reviews

ACM Transactions on Economics and Computation (TEAC), Games and Economic Behavior (GEB), Artificial Intelligence Journal (AIJ), Social Choice and Welfare (SCW)

UR Computer Science Seminar Chair

Fall 2023 - Spring 2024

Organized a weekly computer science department seminar.

UR GIDS Faculty Search Committee Member

Fall 2023 - Spring 2024

Member of the faculty search committee for computational social science.

UR GIDS Masters Admissions Committee Member

Spring 2023, Spring 2024

Member of the masters admissions committee for the Goergen Institute of Data Science.

UR Computer Science Publicity Committee Member

Fall 2023 - Spring 2024

Member of the publicity committee for the computer science doctoral program.

UR Computer Science Seminar Committee Member

Fall 2022 - Spring 2023

Member of the seminar committee for the weekly computer science department seminar.

CMU CSD DEI Working Group

September 2020 - August 2021

Member of working group designing a mandatory course on DEI for all CSD PhD students.

Received the CMU SCS Graduate Student Service Award in 2022.

EAAMO Bridges (formerly Mechanism Design for Social Good)

June 2018 - Present

Civic Participation working group leader (with Paul Gözl)

September 2020 - May 2022

Member of the Online Labor Markets and Bias working groups

June 2018 - September 2020

Harvard EconCS Seminar Organizer

September 2020 - June 2021

Joint with Mark York

Data Analysis Chair

February 2020 - June 2020

EC-20

Speakers Club, Carnegie Mellon University

March 2019 - August 2021

Graduate Student Member

Evaluate PhD students' speaking skills requirements.

CSD Doctoral Review Committee, Carnegie Mellon University

November 2017 - August 2021

Graduate Student Member

Selected as a member of the Computer Science Department's doctoral program advisory committee.

CSD Ph.D. Mentor, Carnegie Mellon University

September 2017 - August 2021

Graduate Student Mentor

Mentor junior Ph.D. students in the Computer Science Department.

Random Distance Run Organizer

April 2017 - April 2021

Organize an annual ~50-person track race for CMU's School of Computer Science.

Hack Harvard Organizer

January 2015 - November 2015

Organized the first annual Hack Harvard, with 500+ participants, \$25,000+ in sponsorship, and over 2,000 pounds of sponsored merchandise.

TALKS

Democra-CS: Computational Perspectives on Democracy

JMM: Mathematical Foundations of Democracy

UR-RIT Theory Canal

URCS Colloquium

January 2023

November 2022

September 2022

District-Fair Participatory Budgeting

AAAI '21 Presentation

Harvard EconCS Seminar

February 2021

September 2020

Proportionality in Approval-Based Elections With a Variable Number of Winners

IJCAI '20 Presentation

GAIW workshop at AAMAS '20

January 2021

May 2020

Statistical Foundations of Virtual Democracy

University of Toronto, Theory Lunch

CU Boulder, Guest lecture in CSCI 7000: Topics in Algorithmic Game Theory

ICML '19 Presentation

Computational Sustainability Open Graduate Seminar

Carnegie Mellon University, AI Seminar

April 2022

February 2020

June 2019

April 2019

March 2019

Paradoxes in Fair Machine Learning

MD4SG Bias Working Group

NeurIPS '19 Spotlight Presentation (2.5% of submissions)

January 2020

December 2019

Incentivizing Effort in Impartial Ranking

MD4SG Online Labor Markets Working Group

November 2018

Liquid Democracy: An Algorithmic Perspective

AAAI '18 Presentation

January 2018

Impartial Rank Aggregation

AAAI '18 Presentation

Carnegie Mellon University, AI Seminar

January 2018

December 2017

Making Right Decisions Based on Wrong Opinions

EC '17 Presentation

June 2017