

DANIEL HALPERN

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EDUCATION

Harvard University

Ph.D. in Computer Science

- Advisor: Ariel Procaccia

Cambridge, MA

August 2020 to present

University of Toronto

B.Sc. in Computer Science with High Distinction

- Major GPA: 4.0/4.0, Cumulative GPA: 3.96/4.0

Toronto, ON

September 2016 to June 2020

WORK EXPERIENCE

Carnegie Mellon University

Research Intern

- Worked with Professor Ariel Procaccia
- Research in topics related to Algorithmic Game Theory

Pittsburgh, PA

June 2019 - August 2019

CryptoNumerics

Software Developer

- One of the first employees at start up working on machine learning and cryptography
- Leader of several projects in Python, Java, and Javascript

Toronto, ON

April 2018 - July 2020

AWARDS

- Selected for the 9th Heidelberg Laureate Forum 2022
- **National Science Foundation Graduate Research Fellowship** 2021
- University of Toronto Computer Science Undergraduate Research Award 2020
- Harold Willet Stewart Memorial Scholarship 2020
- Anna And Alex Beverly Memorial Fellowship 2020
- Samuel Beatty In Course Scholarship 2019
- C. L. Burton Scholarship For Mathematics and Physical Sciences 2019
- Dr. James A. & Connie P. Dickson Scholarship in Science & Mathematics 2018
- Alan Milne McCombie Scholarship 2017
- University of Toronto President's Scholars of Excellence Program 2016

PUBLICATIONS

14. D. Halpern, J. Y. Halpern, A. Jadbabaie, E. Mossel, A. D. Procaccia, and M. Revel. In Defense of Liquid Democracy. Working Paper.
13. B. Flanigan, D. Halpern, and A. Psomas. Smoothed Analysis of Social Choice Revisited. Working Paper.
12. D. Halpern and A. D. Procaccia. Unbiased Information Packets. Working Paper.
11. D. Halpern, G. Kehne, A. D. Procaccia, J. Tucker-Foltz, and M. Wüthrich. Representation with Incomplete Votes. In *Proceedings of the 37th AAAI Conference on Artificial Intelligence (AAAI)*, 2023. Forthcoming.
10. G. Benadè, D. Halpern, and A. Psomas. Dynamic Fair Division with Partial Information. In *Proceedings of the 36th Conference on Neural Information Processing Systems (NeurIPS)*, 2022. Forthcoming.
9. M. Revel, D. Halpern, A. Berinsky, and A. Jadbabaie. Liquid Democracy in Practice: An Empirical Analysis of its Epistemic Performance. In *Proceedings of the 2nd ACM conference on Equity and Access in Algorithms, Mechanisms, Optimization (EAAMO)*, 2022. Forthcoming.
8. A. Borodin, D. Halpern, M. Latifian, and N. Shah. Distortion in Voting with Top-t Preferences. In *Proceedings of the 31st International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 116–122, 2022.
7. D. Halpern, G. Kehne, and J. Tucker-Foltz. Can Buyers Reveal for a Better Deal?. In *Proceedings of the 31st International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 314–320, 2022.
6. M. Revel, T. Lin, and D. Halpern. How Many Representatives Do We Need? The Optimal Size of an Epistemic Congress. In *Proceedings of the 36th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 9431–9438, 2022.
5. D. Halpern and N. Shah. Fair and Efficient Resource Allocation with Partial Information. In *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 224–230, 2021.

4. D. Halpern, G. Kehne, D. Peters, A. D. Procaccia, N. Shah, and P. Skowron. Aggregating Binary Judgments Ranked By Accuracy. In *Proceedings of the 35th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 5456–5463, 2021.
3. D. Halpern, A. D. Procaccia, A. Psomas, and N. Shah. Fair Division with Binary Valuations: One Rule to Rule Them All. In *Proceedings of the 16th Conference on Web and Internet Economics (WINE)*, pp. 370–383, 2020.
2. V. Gkatzelis, D. Halpern, and N. Shah. Resolving the Optimal Metric Distortion Conjecture. In *Proceedings of the 61st Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, pp. 1427–1438, 2020.
1. D. Halpern and N. Shah. Fair Division with Subsidy. In *Proceedings of the 12th International Symposium on Algorithmic Game Theory (SAGT)*, pp. 374–389, 2019.

TEACHING EXPERIENCE

Harvard University

Teaching Fellow

- Optimized Democracy (CS238)

Cambridge, MA

Spring 2022

University of Toronto

Undergraduate Teaching Assistant

- Data Structures and Analysis (CSC263)

Toronto, ON

Spring 2020

University of Toronto

Undergraduate Teaching Assistant

- Algorithm Design, Analysis & Complexity (CSC373)

Toronto, ON

Spring 2020

INVITED TALKS

In Defense of Liquid Democracy

- LAMSADE Mini-Workshop on Cooperative Games, Social Choice, and Fair Division

September, 2022

Fair and Efficient Resource Allocation with Incomplete Votes

- Drexel Theory Seminar

May, 2021

Resolving the Optimal Metric Distortion Conjecture

- Harvard EconCS Seminar
- Cornell Theory Seminar
- Highlights Beyond EC

September, 2020

November, 2020

July, 2021