

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

AWARDS

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| • 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

18. D. Halpern, S. Hossain, and J. Tucker-Foltz. Computing Voting Rules with Elicited Incomplete Votes. In *Proceedings of the 25th ACM Conference on Economics and Computation (EC)*, 2024. Forthcoming.
17. G. Benadè, D. Halpern, A. Psomas, and P. Verma. On the Existence of Envy-Free Allocations Beyond Additive Valuations. In *Proceedings of the 25th ACM Conference on Economics and Computation (EC)*, 2024. Forthcoming.
16. S. Ebadian, D. Halpern, and E. Micha. Metric Distortion with Elicited Pairwise Comparisons. In *Proceedings of the 33rd International Joint Conference on Artificial Intelligence (IJCAI)*, 2024. Forthcoming.
15. F. Baumann, D. Halpern, I. Rahwan, I. Shapira, A. D. Procaccia, and M. Wüthrich. Optimal Engagement-Diversity Tradeoffs in Social Media. In *Proceedings of the 33rd ACM Web Conference (WWW)*, 2024. Forthcoming.
14. D. Halpern, R. Li, and A. D. Procaccia. Strategyproof Voting under Correlated Beliefs. In *Proceedings of the 37th Conference on Neural Information Processing Systems (NeurIPS)*, pp. 39744–39754, 2023.
13. B. Flanigan, D. Halpern, and A. Psomas. Smoothed Analysis of Social Choice Revisited. In *Proceedings of the 19th Conference on Web and Internet Economics (WINE)*, pp. 290–309, 2023.
12. D. Halpern, J. Y. Halpern, A. Jadbabaie, E. Mossel, A. D. Procaccia, and M. Revel. In Defense of Liquid Democracy. In *Proceedings of the 24th ACM Conference on Economics and Computation (EC)*, pp. 852, 2023.
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)*, pp. 5657–5664, 2023.
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)*, pp. 3703–3715, 2022.
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.
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.

WORKING PAPERS

1. D. Halpern, A. D. Procaccia, and W. Suksompong. The Proportional Veto Principle for Approval Ballots.

WORK EXPERIENCE

Carnegie Mellon University

Research Intern

- Worked with Professor Ariel Procaccia

Pittsburgh, PA

June 2019 - August 2019

CryptoNumerics

Software Developer

- One of the first employees at start up working on machine learning and cryptography

Toronto, ON

April 2018 - July 2020

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

SERVICE

PC Member: AAAI ('23, '24), IJCAI ('23, '24), SAGT ('23)

Journal Reviewer: ARTINT ('21, '22), JAAMAS ('21, '21, '22), MOR ('22, '23), MSS ('21, '22, '23)

Subreviewer: EAAMO ('22), SAGT ('21), SODA ('24)

INVITED TALKS

Representation with Incomplete Votes

- INFORMS Annual Meeting
- Bellairs Workshop on Multi-Agent Systems
- COMSOC Video Seminar

October, 2023

March, 2023

February, 2023

In Defense of Liquid Democracy

- HalpernFest: A workshop honoring and celebrating Joe Halpern
- LAMSADE Mini-Workshop on Cooperative Games, Social Choice, and Fair Division

June, 2023

September, 2022

Fair and Efficient Resource Allocation with Partial Information

- Drexel Theory Seminar

May, 2021

Resolving the Optimal Metric Distortion Conjecture

- MSRI Social Choice Seminar
- Highlights Beyond EC
- Cornell Theory Seminar
- Harvard EconCS Seminar

November, 2023

July, 2021

November, 2020

September, 2020