DANIEL HALPERN

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EDUCATION

Harvard University — **Cambridge, MA**
Ph.D. in Computer Science — *August 2020 to present*
- Advisor: Ariel Procaccia

University of Toronto — **Toronto, ON**
B.Sc. in Computer Science with High Distinction — *September 2016 to June 2020*
- Major GPA: 4.0/4.0, Cumulative GPA: 3.96/4.0

WORK EXPERIENCE

Carnegie Mellon University — **Pittsburgh, PA**
Research Intern — *June 2019 - August 2019*
- Worked with Professor Ariel Procaccia
- Research in topics related to Algorithmic Game Theory

CryptoNumerics — **Toronto, ON**
Software Developer — *April 2018 - July 2020*
- One of the first employees at start up working on machine learning and cryptography
- Leader of several projects in Python, Java, and Javascript

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

- D. Halpern, G. Kehne, A. D. Procaccia, J. Tucker-Foltz, and M. Wüthrich. Representation with Incomplete Votes. Working Paper.
- D. Halpern, J. Y. Halpern, A. Jadbabaie, E. Mossel, A. D. Procaccia, and M. Revel. In Defense of Liquid Democracy. Working Paper.
- B. Flanigan, D. Halpern, and A. Psomas. Smoothed Analysis of Social Choice Revisited. Working Paper.
- D. Halpern and A. D. Procaccia. Unbiased Information Packets. Working Paper.
- 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**)*. Forthcoming.
- 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**)*. Forthcoming.
- 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**)*. 116–122.
- 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**)*. 314–320.
- 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**)*. 9431–9438.
- 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**)*. 224–230.
- 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**)*. 5456–5463.

- 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**)*. 370–383.
- 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**)*. 1427–1438.
- D. Halpern and N. Shah. Fair Division with Subsidy. *In Proceedings of the 12th International Symposium on Algorithmic Game Theory (**SAGT**)*. 374–389.

TEACHING EXPERIENCE

Harvard University **Cambridge, MA**
Teaching Fellow *Spring 2022*
- Optimized Democracy (CS238)

University of Toronto **Toronto, ON**
Undergraduate Teaching Assistant *Spring 2020*
- Data Structures and Analysis (CSC263)

University of Toronto **Toronto, ON**
Undergraduate Teaching Assistant *Spring 2020*
- Algorithm Design, Analysis & Complexity (CSC373)

INVITED TALKS

In Defense of Liquid Democracy
- LAMSADE Mini-Workshop on Cooperative Games, Social Choice, and Fair Division — September, 2022

Resolving the Optimal Metric Distortion Conjecture
- Harvard EconCS Seminar — September, 2020
- Cornell Theory Seminar — November, 2020
- Highlights Beyond EC — July, 2021

Fair and Efficient Resource Allocation with Incomplete Votes
- Drexel Theory Seminar — May, 2021