

Chandler Squires
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CONTACT INFORMATION	1556 Cambridge St Cambridge, MA, 02139	chandlersquires18@gmail.com 1-210-412-2105
RESEARCH INTERESTS	<i>Causality</i> : Causal structure learning, experimental design, causal representation learning. <i>Applied statistics/machine learning</i> : Healthcare, biology, neuroscience.	
EDUCATION	Ph.D. Candidate, Electrical Engineering and Computer Science Expected June 2024 <i>Thesis Advisors</i> : David Sontag, Caroline Uhler M.Eng., Electrical Engineering and Computer Science September 2019 Massachusetts Institute of Technology, Cambridge, MA, USA <i>Thesis Advisor</i> : Caroline Uhler <i>GPA</i> : 5.0/5.0 B.S., Electrical Engineering and Computer Science June 2018 Massachusetts Institute of Technology, Cambridge, MA, USA <i>GPA</i> : 4.9/5.0	
SELECTED PUBLICATIONS	<ol style="list-style-type: none">Squires, C., Uhler, C. (2022). <i>Causal Structure Learning: a Combinatorial Perspective</i>, JoFCM [arXiv:2206.01152].Belyaeva, A., Cammarata, L., Radhakrishnan, A., Squires, C., Yang, K., Shivashankar, G.V., Uhler C. (2021) <i>Causal Network Models of SARS-CoV-2 Expression and Aging to Identify Candidates for Drug Repurposing</i>, Nature Comm. [arXiv:2006.03735].Squires, C., Magliacane, S., Greenewald, K., Katz, D., Kocaoglu, M., Shanmugam, K. (2020). <i>Active Structure Learning of Causal DAGs via Directed Clique Trees</i>, NeurIPS 2021 [arXiv:2011.00641].Squires, C., Wang, Y., Uhler, C. (2020). <i>Permutation-Based Causal Structure Learning with Unknown Intervention Targets</i>, UAI 2020 [arXiv:1910.09007].Bernstein, D., Saeed, B., Squires, C., Uhler, C. (2020). <i>Ordering-based causal structure learning in the presence of latent variables</i>, AISTATS 2020 [arXiv:1910.09014].Agarwal, R., Squires, C., Yang, K., Uhler, C. (2019). <i>ABCD-Strategy: Budgeted Experimental Design for Targeted Causal Structure Discovery</i>, AISTATS 2019 [arXiv:1910.09007].	
TEACHING EXPERIENCE	Massachusetts Institute of Technology <ol style="list-style-type: none">Instructor: <i>6.S091, Causality</i> January 2023 Link to lecture notes and recordings.Teaching Assistant: <i>6.437, Inference and Information</i> Spring 2019Teaching Assistant: <i>6.438, Algorithms for Inference</i> Fall 2018	
MENTORSHIP	<ol style="list-style-type: none">Álvaro Ribot, BS 2022-Sathwick Karnik, BS 2020-2022Michael Truell, BS 2021-2023Eshaan Nichani, MEng, now at Princeton University 2020-2021Neha Prasad, BS + MEng, now at Valo 2020-2021Annie Yun, BS + MEng, now at HRT 2020-2021	

	7. Joshua Amaniampong, BS, now at HAP Capital	2020-2021
ACADEMIC SERVICE	1. Reviewer for NeurIPS, ICML, UAI, AISTATS, JMLR, JOCI. 2. MIT EECS Communication Lab fellow.	
INVITED TALKS	1. When Causal Inference meets Statistical Analysis (upcoming) 2. SIAM Conference on Optimization (upcoming) 3. Principles of Distribution Shift Workshop 4. Institute for Mathematical Sciences Annual Meeting 5. Workshop on Interactive Causal Learning 6. Simons Institute Causality Bootcamp 7. AI4Science Colloquium	2023 2023 2022 2022 2022 2022 2021
ALL PUBLICATIONS	1. Sturma, N., Squires, C. , Drton, M., Uhler, C. (2023). <i>Unpaired Multi-Domain Causal Representation Learning</i> , [arXiv:2302.00993]. 2. Squires, C. , Seigal, A., Bhate, S., Uhler, C. (2022), <i>Linear Causal Disentanglement via Interventions</i> . [arXiv:2211.16467]. 3. Zhang, J., Cammarata, L., Squires, C. , Sapsis, T., Uhler, C. (2022), <i>Active Learning for Optimal Intervention Design in Causal Models</i> . [arXiv:2209.04744]. 4. Squires, C. Yun, A., Nichani, E., Agrawal R., Uhler C. (2022). <i>Causal Structure Discovery between Clusters of Nodes Induced by Latent Factors</i> , CLear 2022 [arXiv:2207.01237]. 5. Squires, C. , Shen, D., Agarwal, A., Shah, D., Uhler, C. <i>Causal Imputation via Synthetic Interventions</i> , CLear 2022 . 6. Squires, C. , Uhler, C. (2022). <i>Causal Structure Learning: a Combinatorial Perspective</i> , JoFCM [arXiv:2206.01152]. 7. Truell, M, Hütter J.C., Squires, C. , Zwiernik P., Uhler C. (2021) <i>Maximum Likelihood Estimation for Brownian Motion Tree Models based on One Sample</i> [arXiv:2112.00816]. 8. Zhang, J., Squires, C. , Uhler C. (2021). <i>Matching a Desired Causal State via Shift Interventions</i> , NeurIPS 2021 [arXiv:2107.01850]. 9. Agrawal, R., Squires, C. , Prasad, N., Uhler C. (2021). <i>The DeCAMFounder: Non-Linear Causal Discovery in the Presence of Hidden Variables</i> , [arXiv:2102.07921]. 10. Belyaeva, A., Cammarata, L., Radhakrishnan, A., Squires, C. , Yang, K., Shivashankar, G.V., Uhler C. (2021) <i>Causal Network Models of SARS-CoV-2 Expression and Aging to Identify Candidates for Drug Repurposing</i> , Nature Comm. [arXiv:2006.03735]. 11. Squires, C. , Magliacane, S., Greenewald, K., Katz, D., Kocaoglu, M., Shanmugam, K. (2020). <i>Active Structure Learning of Causal DAGs via Directed Clique Trees</i> , NeurIPS 2021 [arXiv:2011.00641]. 12. Squires, C. , Wang, Y., Uhler, C. (2020). <i>Permutation-Based Causal Structure Learning with Unknown Intervention Targets</i> , UAI 2020 [arXiv:1910.09007]. 13. Bernstein, D., Saeed, B., Squires, C. , Uhler, C. (2020). <i>Ordering-based causal structure learning in the presence of latent variables</i> , AISTATS 2020 [arXiv:1910.09014]. 14. Katz, D., Shanmugam, K., Squires, C. , Uhler, C. (2019). <i>Size of Interventional Markov Equivalence Classes in random DAG models</i> , AISTATS 2019 [arXiv:1903.02054] 15. Agarwal, R., Squires, C. , Yang, K., Uhler, C. (2019). <i>ABCD-Strategy: Budgeted Experimental Design for Targeted Causal Structure Discovery</i> , AISTATS 2019 [arXiv:1910.09007]. 16. Wang, Y., Squires, C. , Belyaeva, A., Uhler, C. (2019). <i>Direct Estimation of Differences in Causal Graphs</i> , NeurIPS 2018 [arXiv:1802.05631].	

INDUSTRY
EXPERIENCE**Summer Researcher**, Microsoft Research, Redmond, WA, USA **June 2021–August 2021**

Developed a contrastive learning schema for improved multivariate time-series prediction in settings with causal relationships between variables.

Summer Researcher, IBM, Cambridge, MA, USA **June 2019–August 2019**

Developed theoretical characterization of optimal experimental design strategies for learning causal graphical models.

Data Science Intern, nference, Cambridge, MA, USA **January 2018–August 2018**

Led both frontend and backend development for two new apps aimed at protein annotation and alignment and patient segmentation; analyzed custom statistical models of protein sequences