

# MAXIMILIAN JERDEE

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## EDUCATION

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Santa Fe Institute Omidyar Postdoctoral Fellow	2025 -
University of Michigan Physics PhD, advised by Mark Newman	2020 - 2025
Princeton University A.B. Physics	2016 - 2020

## PRE-PRINTS

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1. **M. Jerdee**, A. Kirkley, and M. E. J. Newman, Normalized mutual information is a biased measure for classification and community detection. Preprint arXiv:2307.01282 (2024).

## PUBLICATIONS

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2. **M. Jerdee**, A. Kirkley, and M. E. J. Newman, Mutual information and the encoding of contingency tables. *Physical Review E* **110** (6), 064306 (2024).
3. **M. Jerdee** and M. E. J. Newman, Luck, skill, and depth of competition in games and social hierarchies. *Science Advances* **10**, 45 (2024).
4. **M. Jerdee**, A. Kirkley, and M. E. J. Newman, Improved estimates for the number of non-negative integer matrices with given row and column sums. *Proc. R. Soc. London A* **480**, 20230470 (2024).
5. A. G. Lezcano, **M. Jerdee**, and L. A. P. Zayas, Cardy expansion of 3d superconformal indices and corrections to the dual black hole entropy. *Journal of High Energy Physics* **1**, 1–46 (2023).
6. D. J. Binder, S. M. Chester, and **M. Jerdee**, ABJ correlators with weakly broken higher spin symmetry. *Journal of High Energy Physics* **4**, 1–57 (2021).
7. D. J. Binder, S. M. Chester, **M. Jerdee**, and S. S. Pufu, The 3d  $\mathcal{N} = 6$  bootstrap: from higher spins to strings to membranes. *Journal of High Energy Physics* **5**, 1–63 (2021).
8. P. Melchior, F. Moolekamp, **M. Jerdee**, R. Armstrong, A. L. Sun, J. Bosch, and R. Lupton, SCARLET: Source separation in multi-band images by constrained matrix factorization. *Astronomy and Computing* **24**, 129–142 (2018).

## TEACHING

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Grader for Complex Systems 535, “Network Science,” University of Michigan	2023
Graduate Student Instructor for Physics 151, “Fundamental Physics for the Life Sciences I,” University of Michigan	2021-2022
Graduate Student Instructor for Physics 241, “General Physics II,” University of Michigan	2020-2021
Head peer tutor for Quantum Mechanics and Statistical Physics, Princeton University	2019-2020
McGraw tutor for introductory physics, Princeton University	2017-2019

## STUDENTS ADVISED

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Xiaoran Chen, undergraduate, University of Michigan	2024-2025
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## HONORS

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Wirt and Mary Cornwell Prize, University of Michigan	2025
Rackham One-Term Dissertation Fellowship, University of Michigan	2025
Community Engagement Award, University of Michigan	2024
Shenstone Prize in Physics, Princeton University	2018
Pyka Memorial Prize in Physics, Princeton University	2017

## SERVICE AND OUTREACH

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Executive board, Committee of Physicists for Inclusion and Equity, University of Michigan	2024-2025
Social Chair, Physics Department Graduate Council, University of Michigan	2022-2025
Local Organizing Committee for the APS Conference for Undergraduate Women in Physics, University of Michigan	2023-2024
Science Communication Fellow, University of Michigan Museum of Natural History	2021
Lecturer, Princeton Splash, Princeton, NJ	2016-2019
Teaching Assistant, STEMCivics high school, Trenton, NJ	2017-2018

## PRESENTATIONS

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1. Santa Fe Institute, visiting speaker	August 5, 2024
2. Saturday Morning Physics, University of Michigan	April 20, 2024
3. American Physical Society March Meeting, Minneapolis, USA	March 5, 2024
4. Complex Systems Advanced Academic Workshop, University of Michigan	February 22, 2024
5. Northwestern University, visiting speaker	February 20, 2024
6. Guest lecture for Complex Systems 100, "Complexity: From Simple Rules to Complex Behavior," University of Michigan	November 16, 2023
7. Guest lecture for Complex Systems 391, "Modeling Political Processes," University of Michigan	November 1, 2023
8. Complex Systems Advanced Academic Workshop, University of Michigan	October 26, 2023
9. Northeastern University, visiting speaker	October 11, 2023
10. Physics Graduate Student Symposium, University of Michigan	July 27, 2023
11. Statistical Inference for Network Models (NetSci 2023 Symposium), Vienna, Austria	July 11, 2023
12. APS graduate colloquium, University of Michigan	March 21, 2023