

# Tyler Millhouse

College of Information Science  
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## Education

PhD, Philosophy, University of Arizona (2021)

Dissertation: *Really Real Patterns*

Committee: Shaun Nichols (co-chair), Terry Horgan (co-chair), Jonathan Weinberg

MA, Philosophy, Tufts University (2014)

BA, Philosophy, Ashland University (2011)

## Employment

Assistant Professor of Practice, University of Arizona (Fall 2023-Present)

Instructor, University of Arizona (Spring 2023)

Postdoctoral Fellow, Santa Fe Institute (Spring 2021-Fall 2022)

Project: “Foundations of Intelligence in Natural and Artificial Systems”

Supervisors: Melanie Mitchell (PI), Melanie Moses (Co-PI)

## Service & Outreach

### Committees

Member, Awards Committee, College of Information Science, University of Arizona (Fall 2024-Present)

Member, Career-Track Working Group, Faculty Affairs, University of Arizona (Spring 2024-Fall 2024)

Society Working Group Liaison, AI<sup>2</sup> Working Group Organizing Committee, Institute for  
Computation & Data-Enabled Insight, University of Arizona (Spring 2024-Summer 2024)

Member, Hiring Committee, School of Information, University of Arizona (Fall 2023-Spring 2024)

### Public Talks/Panels

“A Brief Introduction to 3d Printing,” Prescott Mac Users Group, June 14, 2025, Prescott, AZ

Panelist, University of Arizona & Industry Panel, April 22, 2024, *Privacy Law in the AI Era*,  
Tucson, AZ

“An AI Stole My Copyright,” March 21, 2024, *Information on Tap*, Tucson, AZ

“Generative AI and the Future of Expertise,” November 15, 2023, Library and Information Student  
Organization, University of Arizona

“Introduction to Data Visualization,” June 15, 2023, UCR Program, Santa Fe Institute

“Falsifiability as a Way of Life,” April 13, 2023, *Misinformation on Tap*, Tucson, AZ

### Peer Review

*AI Magazine*

*The British Journal for the Philosophy of Science*

*Minds and Machines*

*National Science Foundation*

*Philosophical Studies*

*Public Affairs Quarterly*

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*Synthese*  
*MIT University Press*  
*Philosophies*  
*Philosophy of Science*

## Publications

- Millhouse, T., “The Problem of Platonic Codes” (Forthcoming) in *Real Patterns in Science and Nature*. Millhouse, T., Ross, D., and Petersen, S. (eds.). Cambridge, MA: MIT Press.
- Millhouse, T., Ross, D., and Petersen, S. (Forthcoming). *Dennett’s Real Patterns in Science and Nature*. Cambridge, MA: MIT Press.
- Millhouse, T., Moses, M., & Mitchell, M. (2022). “Embodied, Situated, and Grounded Intelligence: Implications for AI.” <https://arxiv.org/abs/2210.13589>.
- Millhouse, T. (2021). “Really Real Patterns.” *Australasian Journal of Philosophy*. <https://doi.org/10.1080/00048402.2021.1941153>.
- Millhouse, T., Moses, M., & Mitchell, M. (2021). “Frontiers in Collective Intelligence: A Workshop Report.” <https://arxiv.org/abs/2112.06864>.
- Millhouse, T., Moses, M., & Mitchell, M. (2021). “Frontiers in Evolutionary Computation: A Workshop Report.” <https://arxiv.org/abs/2110.10320>.
- Millhouse, T., Moses, M., & Mitchell, M. (2021). “Foundations of Intelligence in Natural and Artificial Systems: A Workshop Report.” <https://arxiv.org/abs/2105.02198>.
- Millhouse, T. (2021). “Compressibility and the Reality of Patterns.” *Philosophy of Science*. 88(1). 22–43. <https://bit.ly/3595hLP>.
- Millhouse, T. (2019). “A Simplicity Criterion for Physical Computation.” *The British Journal for the Philosophy of Science*. 70(1), 153-178. <https://doi.org/10.1093/bjps/axx046>.
- Millhouse, T., Ayars, A., & Nichols, S. (2019). “Learnability and Moral Nativism: Exploring Wilde Rules,” in J. Suikkanen and A. Kauppinen (eds.), *Methodology and Moral Philosophy*. New York, NY: Routledge, 73-90.
- Millhouse, T. (2018). “Virtual Machines and Real Implementations.” *Minds and Machines*. 28(3), 465-489. <https://doi.org/10.1007/s11023-018-9472-7>.
- Millhouse, T., Bush, L.S. & Moss, D. (2016). “The Containment Problem and the Evolutionary Debunking of Morality,” in T.K. Shackelford and R.D. Hansen (eds.), *The Evolution of Morality*. Cham, Switzerland: Springer, 115-135.

## Other Scholarship

Team Member, “Convergent Digital Health for Remote Access” (CoDiRA), University of Arizona Big Ideas Challenge Award (May 2025-Present).

## Work in Progress

- “Epistemic Disentanglement” (w/ Lance S. Bush)
- “Kernel Support Vector Machines as a Perspectivalist Methodology” (w/ David Kinney)
- “Patterns and Parsimony”
- “When Levels Intervene”
- “A Bridge From Nowhere: Coarse-Graining, Reduction, and Non-Surjectivity”
- “Dennettian Arguments for a Lewisian Theory of Imperfectly Natural Properties”

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## Presentations

- “Understanding AI,” Colloquium Presentation, Ashland University, November 7th, 2025.
- “When Levels Intervene,” Society for the Metaphysics of Science, Dalhousie University, August 10-12, 2023.
- “A Bridge From Nowhere: Coarse-Graining, Reduction, and Non-Surjectivity,” Society for the Metaphysics of Science, University of Bristol, September 7, 2022.
- “Structure, Not Content: What We Can Learn From the Success of Deep Learning,” First Luxembourg Workshop on Epistemology and Artificial Intelligence, University of Luxembourg, June 29, 2022.
- “When Levels Intervene,” Colloquium Presentation, Dalhousie University, April 8, 2022.
- “The Unsung Virtues of Fine-Graining,” Real Patterns in Science and Cognition, Santa Fe Institute, March, 3, 2022.
- “Misconceiving the Mental: Model Instantiation and Computational Functionalism,” California Polytechnic State University, April, 2, 2021.
- “Patterns and Parsimony,” Santa Fe Institute, January, 14, 2021. <https://youtu.be/rOjO5P2B-Hc>.
- “How Kernel Support Vector Machines Represent Actual and Possible Data” (with David Kinney), Modeling the Possible Workshop, October 1, 2020.
- “Really Real Patterns,” APA Central Division Meeting, Chicago, February 26-29, 2020.
- “Compressibility and the Reality of Patterns,” Society for the Metaphysics of Science, University of Toronto, November 7-9, 2019.
- “The Care and Feeding of Boltzmann Minds,” Center for the Study of Language and Information Workshop, Stanford University, June 3, 2017.
- “Operationalizing Metaethics: The Disagreement Paradigm in Empirical Moral Psychology” (with L.S. Bush), Society for Philosophy & Psychology, University of Texas, Austin, June 4, 2016.
- “Possible Metaethics and Alternative Moral Domains” (with L.S. Bush), Boston Area Moral Cognition Research Group, Boston University, March 25, 2014.