

Nathan William Henry

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EDUCATION

University of California, Berkeley

2025–present

Ph.D. in Computer Science

Advised by Stuart Russell.

University of Toronto

2020–2025

B.A.Sc. in Engineering Science (specializing in Machine Intelligence), Minor in Mathematics

- Graduated with the Engineering Science Award of Excellence.

PUBLICATIONS

- [1] **Transformers Learn Two Competing Sorting Algorithms, and Only One Length-Generalizes.**

Khoshnabar Ghatemir*, **Nathan W. Henry***, Chloe H. Su, Emmanuel Abbe, Samy Bengio, Melanie Weber, Jonathan A. Kelner, Peter L. Bartlett.

Preprint, forthcoming.

*Equal contribution.

- [2] **Robust Delta Networks: Improving Delta Networks with Robust Regression.**

Mayank Mishra, Bharat Runwal, Rishabh Tiwari, Samyak Jain, **Nathan W. Henry**, Tri Dao*, Joseph E. Gonzalez*.

Under review.

*Equal advising.

- [3] **Generic Fibers and Functional Dimension of Multi-Head Attention.**

Nathan W. Henry.

ICML 2026 Workshop on Weight-Space Symmetries: from Foundations to Practical Applications.

- [4] **Geometry of Lightning Self-Attention: Identifiability and Dimension.**

Nathan W. Henry, Giovanni Luca Marchetti, Kathlén Kohn.

International Conference on Learning Representations (ICLR), 2025.

arxiv.org/abs/2408.17221

INVITED TALKS

- *On the Identifiability of Transformer Self-Attention.*

27th Conference of the International Linear Algebra Society (ILAS), 2026.

SERVICE

- Program Committee member and co-organizer of the Interpretability and Science of Generalization sessions, CHAI Workshop 2026.
- Volunteer, Agentic AI Summit 2025, UC Berkeley (RDI): introduced speakers and managed session timing.