Jack Stanley

PhD Candidate

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jackhtstanley

Education

McGill University // Mila AI Institute
Doctor of Philosophy
2021 – 2026 | Montréal, QC
- 4.00 GPA, Supervisor: Danilo Bzdok

University of Toronto
Honours BSc in Statistics & Biochemistry
2017 – 2021 | Toronto, ON
- 3.91 GPA, Dean's List, Trinity College

University of Victoria
Mathematics Coursework
2016 – 2017 | Victoria, BC
- 4.00 GPA, Concurrent enrolment during high school

Tools & Frameworks

Linux | Git | PyTorch | JAX | scikit-learn | NumPy | Pandas | HuggingFace | LaTeX

Models & Architectures

Linear Mixed Models | Neural Networks | Deep Learning | Probabilistic Graphical Models | Natural Language Processing (NLP) | Transformers | Variational Autoencoders | Representation Learning | Generative AI | Multimodal Learning

Scholarships & Honours

FRQS Doctoral Traning Scholarship
McGill | Fonds de Recherche du Québec - Santé (FRQS)
- $100,000 over 4 years to support doctoral research

Provost's Scholar, Chancellor's Scholarship, Drew Thompson Scholarship
University of Toronto
- Awarded annually to the top Trinity College undergraduates for high academic achievement

Schulich Leader Scholarship
University of Toronto | Schulich Foundation
- $80,000 scholarship for STEM leadership potential (only 4 awarded at U of T each year)

BMO National Scholarship
University of Toronto
- $90,000 scholarship for academic excellence, leadership, and creative thinking (only 10 awarded at U of T each year)

Professional Experience

Venture Fellow
Lumira Ventures
November 2023 – August 2024 | Montréal, QC
- Research on emerging technologies/drugs and new markets in the life sciences (with a focus on neurodegenerative diseases and AI drug discovery); company screening and interviews.

Venture Associate
Round13 Capital
May 2023 – September 2023 | Toronto, ON
- Investment sourcing, screening, and financial review (with a focus on AI). Assisting portfolio companies on AI strategy and tooling.

Research Papers

Large language models deconstruct the clinical intuition behind diagnosing autism
J Stanley, E Rabot, S Reddy, E Belilovsky, L Mottron, D Bzdok. 2025. In *Cell*.

From Noise to Narrative: Tracing the Origins of Hallucinations in Transformers
P Suresh*, **J Stanley***, S Joseph, L Scimeca, & D Bzdok. 2025. In *The Thirty-ninth Annual Conference on Neural Information Processing Systems* (*NeurIPS* 2025).
* = equal contribution

At the Edge of Understanding: Sparse Autoencoders Trace The Limits of Transformer Generalization
P Suresh*, **J Stanley***, S Joseph, L Scimeca, & D Bzdok. 2026. In *The Forty-Third International Conference on Machine Learning* (*ICML* 2026)
* = equal contribution

Quantifying LLM Attention-Head Stability: Implications for Circuit Universality
K Bali, **J Stanley**, P Suresh, D Bzdok. In *The Forty-Third International Conference on Machine Learning* (*ICML* 2026)

Temporal steering of LLM reasoning
Paper in progress
An approach to steer LLMs through optimal reasoning trajectories and subspaces without weight modification.

Single-cell data hooks
Paper in progress
Leveraging Evo2 embeddings to learn conditional generative models of single-cell transcriptomics.

AlphaGenome interpretability
Paper in progress
Training sparse autoencoders (SAEs) on AlphaGenome to map functional genomic units to RNA, protein, and methylation.

Miscellaneous

Peer Review
ICLR 2025, ICML 2026.

Athletics
September 2017 – Present
- McGill Redbirds: Varsity XC & track (team captain)
- Toronto Varsity Blues: Varsity XC & track

Test Scores
- GRE: 169V/165Q | ACT: 34