Ilia Sucholutsky

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Education

PhD, Statistics, University of Waterloo **(Sept 2017 – June 2021)**
BMath with Distinction, Statistics, University of Waterloo **(Sept 2014 – Aug 2017)**

Academic Appointments

Incoming Assistant Professor, CS, Purdue University **(Aug 2026)**
Faculty Fellow/Assistant Professor, CDS, NYU **(Sept 2024 - Present)**
Research Affiliate/Visiting Scholar, BCS, MIT **(Jan 2022 - Dec 2023)**
Postdoctoral Research Associate/Fellow, CS, Princeton University **(July 2021 - Aug 2024)**

Research

Peer-reviewed (* indicates equal contribution; name bolded in first, co-first, and senior author papers)

1. Yang, T., Schonlau, M., Repke, L., Felderer, B., Sucholutsky, I. (2026) Automating the Quality Prediction of Survey Questions: Predicting Measurement Quality Directly from Natural Text. (In press at Journal of the Royal Statistical Society: Series A)
2. Ku, A., Campbell, D., Bai, X., Geng, J., Liu, R., Marjieh, R., McCoy, R. T., Nam, A., Sucholutsky, I., Veselovsky, V., Zhang, L., Zhu, J.-Q., & Griffiths, T. L. (2026). Levels of analysis for large language models. (In press at Philosophical Transactions of the Royal Society A.) https://doi.org/10.48550/arXiv.2503.13401
3. *Oktar, K., *Collins, K.M., Weller, A., Griffiths, T., **Sucholutsky, I.** (2026). Risks of Artificial Thought Partners (In Press at ACM AI Letters)
4. Collins, K. M., Bhatt, U., & **Sucholutsky, I.** (2026). Revisiting Rogers' Paradox in the Context of Human-AI Interaction. arXiv preprint arXiv:2501.10476. (In Press at Royal Society Philosophical Transactions A)
5. Center for AI Safety., Scale AI. & HLE Contributors Consortium. A benchmark of expert-level academic questions to assess AI capabilities. Nature 649, 1139–1146 (2026). https://doi.org/10.1038/s41586-025-09962-4
6. van Rijn, P., Sun, Y., Lee, H., Marjieh, R., Sucholutsky, I., Lanzarini, F., André, E. and Jacoby, N., (2026). One Test, Many Tongues: Surveying Language Proficiency Across the Globe. Proc. Natl. Acad. Sci. U.S.A. 123 (13) e2420179123, https://doi.org/10.1073/pnas.2420179123
7. ***Sucholutsky, I.**, *Muttenthaler, L., Weller, A., Peng, A., Bobu, A., Kim, B., Love, B.C., Grant, E., Achterberg, J., Tenenbaum, J.B., Collins, K.M., Hermann, K.L., Oktar, K., Greff, K., Hebart, M.N., Jacoby, N., Zhang, Q., Marjieh, R., Geirhos, R., Chen, S., Kornblith, S., Rane, S., Konkle, T., O'Connell, T.P., Unterthiner, T., Lampinen, A.K., Muller, K., Toneva, M., & Griffiths, T.L. (2025). Getting aligned on representational alignment. Transactions on Machine Learning Research. https://openreview.net/forum?id=Hiq7lUh4Yn.
8. Marjieh, R., Sucholutsky, I., Lee, H., Jacoby, N., & Griffiths, T. L. (2025). Characterizing the Large-Scale Structure of Multimodal Semantic Networks. Cognitive Science, 49(10), e70131.
9. **Sucholutsky, I.,** Collins, K.M., Jacoby, N. et al. (2025) Using LLMs to advance the cognitive science of collectives. Nat Comput Sci 5, 704–707 . https://doi.org/10.1038/s43588-025-00848-z
10. **Sucholutsky, I.**, Zhao, B., Hwang, H. S., Chen, A., Russakovsky, O., & Griffiths, T. (2025). Learning a Doubly-Exponential Number of Concepts From Few Examples. In Proceedings of the Annual Meeting of the Cognitive Science Society (Vol. 47).
11. ***Sucholutsky, I.**, *Collins, K.M., Malaviya, M., Jacoby, N., Liu, W., Sumers, T.R., Korakakis, M., Bhatt, U., Ho, M., Tenenbaum, J.B. and Love, B., (2025). Representational Alignment Supports Effective Machine Teaching. *Proceedings of the Innovation and Responsibility in AI-Supported Education Workshop, PMLR 273:146-173, 2025.*
12. Liu, R., Geng, J., Wu, A. J., Sucholutsky, I., Lombrozo, T., & Griffiths, T. L. (2025). Mind Your Step (by Step): Chain-of-Thought can Reduce Performance on Tasks where Thinking Makes Humans Worse. *ICML 2025*
13. Liu, R., Geng, J., Peterson, J. C., Sucholutsky, I., & Griffiths, T. L. (2025). Large language models assume people are more rational than we really are. *ICLR 2025*
14. Dissanayake, P. , Hamman, F., Halder, B., Zhang, Q., Sucholutsky, I., Dutta, S. (2025) Quantifying Knowledge Distillation using Partial Information Decomposition (In press at AISTATS 2025)
15. Bai, X., Wang, A. , Sucholutsky, I. , & Griffiths, T.L. (2025). Explicitly unbiased large language models still form biased associations, Proceedings of the National Academy of Sciences 122 (8) e2416228122, https://doi.org/10.1073/pnas.2416228122
16. *Collins, K. M., ***Sucholutsky, I.**, *Bhatt, U., *Chandra, K., *Wong, L., Lee, M., ... & Griffiths, T. L. (2024). Building Machines that Learn and Think with People. *Nature Human Behavior 8, 1851–1863. https://doi.org/10.1038/s41562-024-01991-9*

17. Luo, X., Rechardt, A., Sun, G., Nejad, K. K., Yáñez, F., Yilmaz, B., …, Sucholutsky, I.,... & Love, B. C. (2024). Large language models surpass human experts in predicting neuroscience results. *Nature Human Behavior (In Press).*
18. Marjieh, R., Sucholutsky, I., van Rijn, P., Jacoby, N., & Griffiths, T. L. (2024). Large language models predict human sensory judgments across six modalities. *Scientific Reports*, *14*(1), 21445
19. Rathje, S., Mirea, D.M., Sucholutsky, I., Marjieh, R., Robertson, C., & Van Bavel, J. (2024). GPT is an effective tool for multilingual psychological text analysis. *Proceedings of the National Academy of Sciences 121 (34), e2308950121*
20. Wynn, A., Sucholutsky, I., & Griffiths, T. L. (2024). Learning Human-like Representations to Enable Learning Human Values. *NeurIPS 2024.*
21. Peng, A., Li, B. Z., Sucholutsky, I., Kumar, N., Shah, J., Andreas, J., & Bobu, A. (2024). Adaptive Language-Guided Abstraction from Contrastive Explanations. In *8th Annual Conference on Robot Learning*.
22. Oktar, K., Sucholutsky, I., Lombrozo, T., & Griffiths, T. L. (2024). Dimensions of disagreement: Divergence and misalignment in cognitive science and artificial intelligence. Decision, 11(4), 511–522. https://doi.org/10.1037/dec0000244
23. Huang, D. M., Van Rijn, P., Sucholutsky, I., Marjieh, R., & Jacoby, N. (2024). Characterizing Similarities and Divergences in Conversational Tones in Humans and LLMs by Sampling with People. *In Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers), pages 10486–10512, Bangkok, Thailand.*
24. Peng, A., Bobu, A., Li, B.Z., Sumers, T.R., Sucholutsky, I., Kumar, N., Griffiths, T.L. and Shah, J.A., (2024). Preference-Conditioned Language-Guided Abstraction. In *Proceedings of the 2024 ACM/IEEE International Conference on Human-Robot Interaction* (pp. 572-581).
25. Peng, A., Sucholutsky, I., Li, B., Sumers, T., Griffiths, T., Andreas, J., Shah, J. (2024) Learning with Language-Guided State Abstractions. In *The Twelfth International Conference on Learning Representations*.
26. Yang, T., Sucholutsky, I., Jen K.Y, Schonlau M. (2024). exKidneyBERT: a language model for kidney transplant pathology reports and the crucial role of extended vocabularies. *PeerJ Computer Science 10, e1888.*
27. **Sucholutsky, I.**, Zhao, B., & Griffiths, T. (2024). Using Compositionality to Learn Many Categories from Few Examples. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 46).
28. *Niedermann, J. P., ***Sucholutsky, I.**, Marjieh, R., Celen, E., Griffiths, T., Jacoby, N., & van Rijn, P. (2023). Studying the Effect of Globalization on Color Perception using Multilingual Online Recruitment and Large Language Models. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 46).
29. Chen, A., Sucholutsky, I., Russakovsky, O., & Griffiths, T. (2024). Analyzing the Roles of Language and Vision in Learning from Limited Data. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 46).
30. Marjieh, R., van Rijn, P., Sucholutsky, I., Lee, H., Griffiths, T., & Jacoby, N. (2024). A Rational Analysis of the Speech-to-Song Illusion. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 46).
31. Rane, S., Ho, M. K, Sucholutsky, I., & Griffiths, T. (2024). Concept Alignment as a Prerequisite for Value Alignment. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 46.
32. **Sucholutsky, I.**, & Griffiths, T. L. (2023). Alignment with human representations supports robust few-shot learning. *In the Proceedings of NeurIPS 2023.* **[Spotlight]**
33. Collins, K.M., Barker, M., Espinosa Zarlenga, M., Raman, N., Bhatt, U., Jamnik, M., Sucholutsky, I., Weller, A. and Dvijotham, K., (2023). Human Uncertainty in Concept-Based AI Systems. *In Proceedings of the 2023 AAAI/ACM Conference on AI, Ethics, and Society.*
34. Marjieh, R., Sucholutsky, I., Langlois, T. A., Jacoby, N., & Griffiths, T. L. (2023). Analyzing Diffusion as Serial Reproduction. Proceedings of the 40th International Conference on Machine Learning.
35. Collins, K.M., Bhatt, U., Liu, W., Piratla, V., Sucholutsky, I., Love, B., & Weller, A. (2023). Human-in-the-Loop Mixup. *The 39th Conference on Uncertainty in Artificial Intelligence.* **[Oral]**
36. **Sucholutsky, I.**, Battleday, R.M., Collins, K.M., Marjieh, R., Peterson, J., Singh, P., Bhatt, U., Jacoby, N., Weller, A., & Griffiths, T.L. (2023). On the Informativeness of Supervision Signals. *The 39th Conference on Uncertainty in Artificial Intelligence*. **[Spotlight]**
37. Marjieh, R., Sucholutsky, I., van Rijn, P., Jacoby, N., & Griffiths, T. L. (2023). What language reveals about perception: Distilling psychophysical knowledge from large language models. *Proceedings of the Annual Meeting of the Cognitive Science Society, 45.*
38. van Rijn, P., Sun, Y., Lee, H., Marjieh, R., Sucholutsky, I., Lanzarini, F., André, E. and Jacoby, N., (2023). Around the world in 60 words: A generative vocabulary test for online research. *Proceedings of the Annual Meeting of the Cognitive Science Society, 45.*
39. Shetty, A., Shekhar, D., Nelaturu, S., Sucholutsky, I., (2023). Adaptive sparse masks for image classification In ICLR 2023 Tiny Papers track.
40. *Marjieh, R., *van Rijn, P., ***Sucholutsky, I.**, Sumers, T. R., Lee, H., Griffiths, T. L., & Jacoby, N. (2022). Words are all you need? Capturing human sensory similarity with textual descriptors. *In the proceedings of The Eleventh International Conference on Learning Representations.*

41. *Malaviya, M., ***Sucholutsky, I.**, Oktar, K., & Griffiths, T. (2022). Can Humans Do Less-Than-One-Shot Learning? *Proceedings of the Annual Meeting of the Cognitive Science Society, 44.* **[Oral]**
42. *Marjieh, R., ***Sucholutsky, I.**, Sumers, T., Jacoby, N., & Griffiths, T. (2022). Predicting Human Similarity Judgments Using Large Language Models. *Proceedings of the Annual Meeting of the Cognitive Science Society, 44.*
43. **Sucholutsky, I.**, Schonlau, M. (2021). Soft-label dataset distillation and text dataset distillation. *In 2021 International Joint Conference on Neural Networks (IJCNN). IEEE*. **[Oral]**
44. **Sucholutsky, I.**, Kim, N., Schonlau, M. (2021). One line to rule them all: Generating LO-shot soft-label prototypes. *In 2021 International Joint Conference on Neural Networks (IJCNN). IEEE.* **[Oral]**
45. **Sucholutsky, I.**, Schonlau, M. (2021). `Less Than One'-Shot Learning: Learning N Classes From M < N Samples. *Proceedings of the AAAI Conference on Artificial Intelligence, 35(11), 9739-9746.* **[See below for press coverage.]**
46. **Sucholutsky, I.**, Schonlau, M. (2021). SecDD: Efficient and Secure Method for Remotely Training Neural Networks (Student Abstract). *Proceedings of the AAAI Conference on Artificial Intelligence, 35(18), 15897-15898.*
47. **Sucholutsky, I.**, Schonlau, M. (2021). Optimal 1-NN prototypes for pathological geometries. (2021). *PeerJ Computer Science, 7:e464.*
48. **Sucholutsky, I.**, Narayan, A., Schonlau, M., Fischmeister, S. (2019). Pay attention and you won't lose it: a deep learning approach to sequence imputation. *PeerJ Computer Science, 5:e210.*
49. **Sucholutsky, I.**, Narayan, A., Schonlau, M., Fischmeister, S. (2019). Deep learning for system trace restoration. *In 2019 International Joint Conference on Neural Networks (IJCNN). IEEE. doi: 10.1109/IJCNN2019.8852116.* **[Oral]**
50. **Sucholutsky, I.**, Schonlau, M. (2018). ConvART: Improving adaptive resonance theory for unsupervised image clustering. *Journal of Computational Vision and Imaging Systems. 4(1).*
51. Schonlau, M., Guenther, N. Sucholutsky, I. (2017). Text mining using ngram variables. *The Stata Journal.* 17(4), 866-881.

Preprints & Forthcoming

1. He, Z., Achterberg, J., Collins, K., Nejad, K., Akarca, D., Yang, Y., ... & Lindsay, G. W. (2024). Multilevel Interpretability Of Artificial Neural Networks: Leveraging Framework And Methods From Neuroscience. *arXiv preprint arXiv:2408.12664*. (under review)
2. Halder, B., Hamman, F., Dissanayake, P., Zhang, Q., Sucholutsky, I., & Dutta, S. (2024). Quantifying Spuriousness of Biased Datasets Using Partial Information Decomposition. *arXiv preprint arXiv:2407.00482*. (under review)
3. Collins, K. M., Chen, V., Sucholutsky, I., Kirk, H. R., Sadek, M., Sargeant, H., ... & Bhatt, U. (2024). Modulating Language Model Experiences through Frictions. *arXiv preprint arXiv:2407.12804*. (under review)
4. Rane, S., Bruna, P. J., Sucholutsky, I., Kello, C., & Griffiths, T. L. (2024). Concept alignment. *arXiv preprint arXiv:2401.08672*.
5. **Sucholutsky, I.**, Oktar, K., Collins, K.M., (2025). Cognitive Parasites (in prep)
6. Ibrahim, L., et al. (2025). Measuring and mitigating overreliance is necessary for building human-compatible AI. arXiv preprint arXiv:2509.08010. (under review)
7. Li, C., Marjieh, R., Hu, H., Steyvers, M., Collins, K. M., *__Sucholutsky, I__., & *Jacoby, N. (2026). Human-AI Synergy Supports Collective Creative Search. arXiv preprint arXiv:2602.10001.
8. Hu, H., Marjieh, R., Collins, K. M., Li, C., Griffiths, T. L., *__Sucholutsky, I__., & *Jacoby, N. (2026). Why Human Guidance Matters in Collaborative Vibe Coding. arXiv preprint arXiv:2602.10473.

Invited and notable talks

Harvard CMSA Panel on Machine Learning in Science Education - Why should machines have human-like representations? Towards student-centric AI tutors
NYU ConCats Seminar Sept 2024 - Learning from almost no data
Center for human-compatible AI (CHAI 2023) Workshop - How and why to study representational alignment
Columbia University StatisticsML Symposium - Alignment with human representations supports robust few-shot learning **[spotlight talk]**
NeurIPS 2022 InfoCog Workshop - On the informativeness of supervision signals **[spotlight talk]**
Neuromonster 2022 - Learning from almost no data **[best junior researcher talk]**
MBC^2 Workshop 2022 - Learning to classify from almost no data
University of Toronto StartAI 2018 Conference - Making the Most of Graduate Research in AI
Statistics Society of Canada Annual Meeting 2018 - Deep Learning for Lost Data Restoration and Imputation
University of Waterloo Data Science Club - Breaking into Deep Learning: 5 Projects To Get You Inspired

Teaching

Instructor, NYU **(Sep 2024 - Dec 2024)**
Course: DS-GA 3001 - Special Topics in Data Science - Learning with Small Data
Instructor, Princeton University **(Jan 2022 - April 2022)**
Course: COS IW 10 - Deep Learning with Small Data
Instructor, University of Waterloo **(Jan 2020 - April 2020)**
Course: Stat 231 - Statistics
- Evaluation: Received a 4.4 (out of 5) weighted score on student evaluations

Teaching Assistant, University of Waterloo **(Jan. 2017 – Apr. 2017)**
Course: Math 135 - Algebra for Honours Mathematics
- **Teaching Assistant, University of Waterloo** **(Sept. 2016 – Dec. 2016)**
  - Course: Math 114 - Linear Algebra for Science

Advising and Supervision Experience

Theses

Tiancheng Yang - PhD thesis in progress; Master's thesis: https://preprints.jmir.org/preprint/41966 (joint advising)
Grace Liu - Senior thesis completed on predicting hurricane counts with machine learning (joint advising)
- James Grosz - Senior thesis completed on automatic stop word detection (joint advising)
- Andrea Wynn - Master's thesis completed on representation and value alignment (mentor)

COS IW 10 - Deep Learning with Small Data

I was an instructor for a Spring 2022 independent work seminar on deep learning with small data and advised eight undergraduate students who were working on their junior or senior theses related to this topic.

Virtual Machine Learning Research Lab

I started and ran the Virtual Machine Learning Research (VMLR) Lab, an unofficial virtual lab where I mentored students and recent graduates working on ML research. I mentored over 40 members from around the world, working in groups on 11 research projects. Topics include explainability in computer vision, synthetic data for active learning, real-time audio-to-video synthesis, natural language augmentations, few-shot image classification, reinforcement learning for process control, and several more.

Industry & Consulting Experience

VP Research/AI Advisor, StratumAI **(Aug 2020 - Sep 2024)**
Leading research and development of algorithms to make mining efficient and increase mine life
- Adapting deep learning methods for 3D spatial regression on highly sparse datasets
- Improving explainability and uncertainty estimation of neural network predictions
- Developing methods for integrating geological insights as priors into neural network training

- **Pro-bono AI Advisor, Kin-Keepers** **(May 2021 - Dec 2024)**
  - The Kin-Keepers mission is to improve quality of life for those suffering from incurable cognitive declines like Alzheimer's and other forms of dementia by helping them communicate and feel understood.

Misc. Consulting **(Jan. 2017 – July 2021)**
Helped rapidly growing accounting firm automate data-entry/bookkeeping pipelines
Received controlled goods clearance and provided ML consulting to a large defense contractor
- Worked with a mining startup to improve their results when using deep learning to model extremely sparse 3D data
- Consulted fintech startup on improving data-efficiency using latest few-shot, active, and online learning research
- Developed R&D plan for deepfake entertainment startup (10M+ users) to improve models & enable efficient scaling
- Advised (pro-bono) early-stage startups on developing ML systems, planning R&D, getting the most out of data, etc.

Data Guru (Research Team), Athos **(May 2016 – Aug. 2016)**
Created Luigi pipelines to automate away EMR jobs saving each team member an average of 8-10 hours per week
Increased calibration accuracy by 90% by creating patch to recalculate values in backend and push to users' app

Developed and automated system for surfacing defect analytics internally, leading to 10% increase in contact quality
Investigated root cause of churn and improved user experience through visualizations of progress metrics
Extracted new features from multi-channel time-series data including real 3D motion and muscle-use timing
- Performed study on data from elite and non-elite athletes to determine what leads to high performance

Data Scientist, Capital One **(May 2015 – Aug. 2015)**
Completed cross-functional Facebook advertising in-sourcing project start-to-finish
Increased app volume to 260% and decreased cost per app by 50% with net benefit of $2 million per year
Interfaced with Facebook API programmatically to create a fully automated data pipeline
Used NLP techniques to identify demographic segments and rank-order/slope analysis to identify optimal bids

President, UW Apprentice **(Jan. 2015 – Jan. 2017)**
Managed diverse team of 40 students spanning two universities
Provided pro-bono consulting to 20+ startups ranging from pre-seed to Series B
- Negotiated sponsorship deals with firms including Blackberry, Kik, Capital One, and Velocity to fund this initiative

Service & Community Building

Organizer - ICLR 2024,25,26 Workshops on Representational Alignment (https://representational-alignment.github.io/)
Organizer - NeurIPS 2024 Workshop on Behavioral Machine Learning (http://BehavioralML.org)
Organizer - ICML 2024 Workshop on Large Language Models and Cognition (https://llm-cognition.github.io/)
Organizer - Neuromonster 2024 AI Session (https://www.neuromonster.org/)
Organizer - Neuromonster 2023 Representational Alignment Session (https://www.neuromonster.org/)
Organizer - CogSci 2023 Workshop: Large language models meet cognitive science (https://cogscillm.com/)
Organizer - CHAI 2023 Human Cognition Session (https://humancompatible.ai/chai2023/)
Committee Member - NSERC Selection Committee for Computing Sciences (https://www.nserc-crsng.gc.ca/NSERC-CRSNG/committees-comites/198-198_eng.asp)
Area Chair - ICLR 2023 & 2024 TinyPapers Track, ICLR 2026 Main Track, ICML 2026 Main Track
Session Chair - 2022 Symposium on Data Science & Statistics (Session on Neural Network Analysis)
Session Chair - SSC Annual Meeting 2022 (Session on Recent Advances & Applications of ML Methods)
Reviewer/PC Member - NeurIPS 2024, NeurIPS 2023; AISTATS 2023**;** ICLR 2023; NeurIPS 2022 Workshop: Information-Theoretic Principles in Cognitive Systems; DeepMath 2022**;** ICML 2022 Workshop - Shift Happens; BMC Medical Imaging; Electronics Letters; The Stata Journal; 2020 IEEE International Conference on Systems, Man and Cybernetics; IEEE DSAA 2020 (Special Session on Data Science for Cyber Physical Systems)
Co-founder & Treasurer - Statistics Anti-Depression Club, University of Waterloo
Student Councillor - FEDS, University of Waterloo

Grants, Awards, & Honors

Tinker Research Award	(Jan. 2026)
Google Gemini Academic Program Award	(Dec. 2025)
DARPA “In the moment (ITM)”: Algorithmic Trust at Scale ($5M; co-PI)	(Sept. 2025 - Mar. 2027)
Microsoft Accelerate Foundation Models Research Initiative	(Sept. 2023)
Princeton CSML Azure Mini-grant	(May 2023)
NSERC Postdoctoral Fellowship	(Apr. 2022 - Mar. 2024)
Waterloo AI Institute Graduate Scholarship	(Jan. 2020)
Statistics and Actuarial Science Chair’s Award	(Sept. 2020)
Ontario Graduate Scholarship	(Jan. 2021 - Dec. 2021)
SSC Student Travel Award for the 2020 SSC Annual Meeting	(June 2020)
Ontario Graduate Scholarship	(Jan. 2020 - Dec. 2020)
Statistics and Actuarial Science Chair’s Award	(Sept. 2019)
Math Senate Graduate Scholarship	(Jan. 2019)
Statistics and Actuarial Science Chair’s Award	(May 2018)
Faculty of Mathematics Scholarship (recurring)	(Sept. 2014 - Aug. 2017)
University of Waterloo President’s Scholarship	(Sept. 2014)

Press Coverage

MIT Technology Review - A radical new technique lets AI learn with practically no data
“This could make AI more accessible to companies and industries that have thus far been hampered by the field’s data requirements. It could also improve data privacy, because less information would have to be extracted from individuals to train useful models.”

Scientific American - How to Make Artificial Intelligence More Democratic
“Not only does LO-shot learning make the barriers to entry lower by reducing training costs and lowering data requirements, but it also provides more flexibility for users to create novel data sets and experiment with new approaches. By reducing the time spent on data and architecture engineering, researchers looking to leverage AI can spend more time focusing on the practical problems they are aiming to solve.”

Digital Trends - This groundbreaking new style of A.I. learns things in a totally different way
“... a new research paper from the University of Waterloo in Ontario describes a potential breakthrough process called LO-shot (or less-than-one shot) learning. This could enable machines to learn far more rapidly in the manner of humans. That would be useful for a wide range of reasons, but particularly scenarios in which large amounts of data do not exist for training.”

KDnuggets - Doing the impossible? Machine learning with less than one example
“Machine learning algorithms are notoriously known for needing data, a lot of data -- the more data the better. But, much research has gone into developing new methods that need fewer examples to train a model, such as "few-shot" or "one-shot" learning that require only a handful or a few as one example for effective learning. Now, this lower boundary on training examples is being taken to the next extreme.”

Actu IA - Des chercheurs de l’Université de Waterloo présentent le Less Than One-Shot Learning pour créer des modèles sur des datasets limités

Radical Ventures - Radical Reads: A radical new technique lets AI learn with practically no data
“Research breakthroughs on few-shot learning could make a big difference for AI research and applications which depend on large datasets and the expensive cloud compute infrastructures required to train AI. The less data needed to train AI, the more accessible the technology will be for companies and industries, and the lower the costs of computation. There may also be privacy benefits as less information must be collected to create useful models.”

TechTalks - Machine learning with less than one example

The Next Web - How ‘less-than-one-shot learning’ could open up new venues for machine learning research

Singularity Hub - How Future AI Could Recognize a Kangaroo Without Ever Having Seen One

Tech Xplore - A math idea that may dramatically reduce the dataset size needed to train AI systems

Nikola News - Researchers Demonstrate Less-than-One Shot Machine Learning

University of Waterloo Stories - There’s a new faster way to train AI

University of Waterloo Imprint - Know more than you know

AI.Science - ‘Less Than One’-Shot Learning

NYU Data Science - LLMs’ Sensory Experience

NYU Data Science - Human-compatible AI

TechXplore - Highly performing AI agents can still fail to spot deception