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RESEARCH PROFILE

Areas of Research:	Machine Learning (Representation Learning and Deep Learning), Unsupervised Learning, Time Series, High Performance Computing
Fields of Application:	Image and Video Understanding, Motion Capture and Analysis, Remote Sensing and Agri-Food, Biodiversity, Finance

EDUCATION

2009 **PhD in Computer Science**
University of Toronto
Composable, distributed-state models for high-dimensional time series
Advisors: Geoffrey Hinton and Sam Roweis

2004 **MASc in Systems Design Engineering**
University of Waterloo
Reinforcement learning for parameter control of image-based applications
Advisor: Hamid Tizhoosh

2003 **BASc in Systems Design Engineering** (with distinction)
University of Waterloo

RECOGNITIONS

2023–2028 Tier 2 Canada Research Chair in Machine Learning — Renewal ($500,000)

2023–2028 Canada CIFAR AI Chair — Renewal

2018–2019 Google Visiting Faculty
Selected as Visiting Faculty at Google Brain, Montreal. Only 40–50 Visiting Faculty are active worldwide.

2018–2023 Tier 2 Canada Research Chair in Machine Learning ($500,000)
The Canada Research Chairs Program stands at the centre of a national strategy to make Canada one of the world's top countries in research and development.

2018 Canada's Top 40 Under 40
Canada's Top 40 Under 40 is an annual recognition of the exceptional achievements of 40 outstanding Canadians under the age of 40.

2018–2023 Canada CIFAR AI Chair
The Canada CIFAR AI Chairs program seeks to attract and retain the best AI talent to Canada.

2016–2018 Canadian Institute for Advanced Research Azreili Global Scholar ($100,000)
One of two recipients chosen world-wide to join the CIFAR Learning in Machines and Brains program. Award is based on research excellence and leadership and evaluation involved a written application, references, and a two-day in-person interview with short-listed candidates.

2016 Guelph Life Guelph 40 under 40
Award honours 40 exceptional individuals in the Guelph community under the age of 40.

2014 1st place finish in Chalearn 2014 "Looking at People" competition
First out of 17 teams in the international multi-modal gesture recognition challenge.

EMPLOYMENT HISTORY

Research experience

2022-2023 **Vector Institute for Artificial Intelligence** Toronto, Canada
Research Director

2021-2022 **Vector Institute for Artificial Intelligence** Toronto, Canada
Interim Research Director

2021-now **School of Engineering, University of Guelph** Guelph, Canada
Professor (current appointment)

2020-now **Centre for Advancing Responsible and Ethical Artificial Intelligence, University of Guelph** Guelph, Canada
Academic Co-Director (current appointment)

2017-now **Vector Institute for Artificial Intelligence** Toronto, Canada
Faculty Member (current appointment)

2018-2020 **Centre for Advancing Responsible and Ethical Artificial Intelligence, University of Guelph** Guelph, Canada
Founding Academic Director

2017-2021 **School of Engineering, University of Guelph** Guelph, Canada
Associate Professor

2012-2017 **School of Engineering, University of Guelph** Guelph, Canada
Assistant Professor

2009-2012 **Courant Institute of Mathematical Sciences, New York University** New York, USA
Postdoctoral Fellow
Research with Chris Bregler, Rob Fergus, and Yann LeCun of the Vision, Learning, and Graphics group.

2007 **Speech Technology Group, Microsoft Research** Redmond, USA
Research Intern
Research with Michael Seltzer, Li Deng, and Alex Acero.

2003-2004 **INSA de Lyon Technical and Scientific University** Lyon, France

Visiting Scientist
Research with Christian Wolf and Jean-Michel Jolion of the Lyon Research Centre for Images and Intelligent Information Systems.

Industry and non-profit sector experience

2018-now **Creative Destruction Lab** Toronto, Canada
Lab Scientist
Technical advisor within the accelerator with the highest concentration of machine learning startups in the world.

2016-now **NEXT Canada** Toronto, Canada
Founding Academic Director, NextAI
Leads training component of non-profit initiative to establish Canada as the AI hub for research, venture creation and technology commercialization.

2014-2020 **Kindred Systems, Inc.** Toronto, Canada
Co-Founder and Academic Relations
Raised over US$80M in venture capital and grew company to over 90 employees. Sold company to Ocado Group for US$262M retaining major R&D operations in Toronto.

2014-2016 **Investment Industry Regulatory Organization of Canada** Toronto, Canada
Consultant
Applied machine learning to Canada's largest dataset of equities trading.

2011-2012 **OANDA** Toronto, Canada
Quantitative Analyst
Applied machine learning to build statistical models of financial data.

RESEARCH FUNDING HISTORY

Overview

59 externally funded grants, awards, or contracts to-date are listed in descending order of award date. Award amounts in *italics* are the portion I received as a co-applicant on team grants. All other amounts were awarded as a sole applicant. Awards with no cash value (e.g. support for dedicated research staff) are listed with a "-" in the amount column.

NO.	FUNDED BY	YEAR	Amount (CAD)
1	Mitacs	2025	32,000
2	Mitacs	2025	30,000
3	Canada Biomedical Research Fund	2024	358,563
4	NSERC	2023	500,000
5	National Science Foundation / NSERC	2023	620,000
6	Fonds de recherche du Québec - Nature et technologies	2023	53,000
7	NSERC	2022	150,000
8	NVIDIA	2022	63,790

9	Compute Canada	2022	27,061
10	Government of Canada	2022	*300,000*
11	Vector Institute	2021	25,000
12	Interchain Foundation	2021	108,000
13	Mitacs	2020	20,000
14	Defense Advanced Research Projects Agency	2020	370,382
15	CIFAR	2020	3,600
16	NSERC	2019	120,000
17	NSERC	2019	120,000
18	NSERC	2019	240,000
19	Compute Canada	2019	80,385
20	Mitacs	2019	165,000
21	Ontario Research Fund: Research Excellence	2019	*542,499*
22	OCE	2018	30,000
23	Mitacs	2018	20,000
24	NSERC	2018	500,000
25	CFI	2018	125,000
26	Ontario Ministry of Research and Innovation	2018	125,000
27	NSERC	2018	25,000
28	NSERC	2017	65,976
29	Defense Advanced Research Projects Agency	2017	403,533
30	Mitacs	2017	15,000
31	Amazon	2017	50,607
32	OCE	2017	25,000
33	NSERC	2016	25,000
34	Mitacs	2016	15,000
35	Canadian Institute for Advanced Research	2016	120,000
36	Canadian Institute for Advanced Research	2016	100,000
37	SHARCNET	2016	-
38	NSERC	2016	*264,750*
39	SHARCNET	2016	-
40	Mitacs	2016	-
41	NSERC	2015	25,000
42	Huawei	2015	123,841
43	Defense Advanced Research Projects Agency	2015	308,291
44	NSERC	2015	24,868
45	Mitacs	2015	90,000
46	Google	2014	125,529
47	NSERC	2014	5,000
48	NSERC	2014	25,000
49	Mitacs	2014	-
50	NSERC	2014	22,263
51	NSERC	2014	3,672
52	NSERC	2013	25,000
53	NSERC	2013	23,500
54	CFI	2013	119,972
55	Ontario Ministry of Research and Innovation	2013	119,971
56	Mitacs	2013	-

57	Mitacs	2013	-
58	NSERC	2013	98,258
59	NSERC	2013	150,000
Total awarded			7,129,311

Details

2025 1. Mitacs Accelerate: *Assessing the Risks of Self-Reinforcing Attacks on Generative AI Systems*
Role: Principal Investigator
Awarded: $32,000

2025 2. Mitacs Accelerate: *Scaling USA-NPN Sampling Design using LLM Agents*
Role: Principal Investigator
Awarded: $32,000

2024–2028 3. CBRF: *INSPIRE: Integrated Network for the Surveillance of Pathogens; Increasing resilience and capacity in Canada's pandemic response*
Role: Co-Principal Investigator
Awarded: $358,563/4 years

2023–2028 4. Canada Research Chair: *Chair in Machine Learning* (Renewal)
Role: Principal Investigator
Awarded: $500,000/5 years

2023–2028 5. National Science Foundation Global Centers Program: *Global Center on AI and Biodiversity Change*
Role: Co-Principal Investigator
Awarded: $620,000/5 years

2023–2026 6. FRQNT NOVA: *Broader Self-Supervised Learning with Applications*
Role: Co-Principal Investigator
Awarded: $53,000/3 years

2022–2028 7. NSERC Collaborative Research and Training Experience: *Interdisciplinary Math & Artificial Intelligence Program (INTER-MATH-AI)*
Role: Co-Principal Investigator
Awarded: $150,000/6 years

2022 8. NVIDIA Academic Grant
Role: Principal Investigator
Awarded: $63,790

2022–2023 9. Compute Canada Resources for Research Groups: *Machine Learning for Dynamic Keyboard Layouts*
Role: Principal Investigator
Awarded: $27,061 in dedicated GPU compute time

2022–2028 10. New Frontiers in Research Fund — Transformation 2020: *BIOSCAN: Tracing the Patterns of Life on a Changing Planet*
Role: Co-Principal Investigator
Awarded: $300,000/6 years

2021 11. Vector Outstanding Service Award
Role: Principal Investigator
Awarded: $25,000

2021 12. Interchain Foundation Funding Program: *Helios — Adversarial Reinforcement Learning for Improving Security and Reliability in Cosmos*
Role: Principal Investigator
Awarded: $108,000

2020–2021 13. Mitacs Accelerate: *Dynamic Deep Generative Graph Models for Financial Forecasting*
Role: Principal Investigator
Awarded: $20,000

2020–2022 14. Defense Advanced Research Projects Agency (DARPA): *Adversarial Robustness Metrics for Representations (ARMR)*
Role: Principal Investigator
Awarded: $370,382/2 years

2020 15. Canadian Institute for Advanced Research Catalyst Grant: *Model-based Reinforcement Learning as a Path to Conversational AI*
Role: Co-Principal Investigator
Awarded: $3,600/1 year

2019-2022 16. Department of National Defence NSERC Discovery Grant Supplement
Role: Principal Investigator
Awarded: $120,000/3 years

2019-2022 17. NSERC Discovery Accelerator Supplement
Role: Principal Investigator
Awarded: $120,000/3 years

2019-2024 18. NSERC Discovery Grant: *Yielding and Exploiting Confidence in Deep Learning*
Role: Principal Investigator
Awarded: $240,000/5 years

2019–2022 19. Compute Canada Resources for Research Groups: *Deep Learning: Algorithms & Architectures, Applications and Acceleration*
Role: Principal Investigator
Awarded: $80,385/3 years in dedicated GPU compute time

2019-2020 20. Mitacs Accelerate: *High Throughput Screening of Single Domain Antibodies Using Machine Learning*
Role: Principal Investigator
Awarded: $165,000/2 years

2019-2024 21. Ontario Research Fund Research Excellence: *Computational Peer Review through Identification and Captioning of Gigapixel Digital Pathology Scans*
Role: Co-Principal Investigator
Awarded: $542,499/5 years

2018 22. Ontario Centres of Excellence VIP 1: *Site Specific Optimization For Archimedes Screw*
Role: Principal Investigator
Awarded: $30,000

2018 23. Mitacs Accelerate: *Characterizing and Improving the Robustness of Convolutional Neural Networks*
Role: Principal Investigator
Awarded: $20,000

2018–2023 24. Canada Research Chair: *Chair in Machine Learning Systems*
Role: Principal Investigator
Awarded: $500,000/5 years

2018–2023 25. Canada Foundation for Innovation - John R. Evans Leaders Fund: *GPU Hardware Acceleration Technology for Machine Learning Systems*
Role: Principal Investigator
Awarded: $125,000

2018–2023 26. Ontario Ministry of Research and Innovation CFI Match: *GPU Hardware Acceleration Technology for Machine Learning Systems*
Role: Principal Investigator
Awarded: $125,000

2018–2019 27. NSERC Engage: *Generative Deep Learning toward Antibody Discovery for the Prevention of Food-Borne Illnesses*
Role: Principal Investigator
Awarded: $25,000

2017–2019 28. NSERC Collaborative Research and Development: *Bayesian Optimization for Multi-Screw Archimedes Turbine Design*
Role: Principal Investigator
Awarded: $65,976/2 years

2017–2021 29. Defense Advanced Research Projects Agency (DARPA): *Deep Attention-based Representations for Explanations (DARE)*
Role: Principal Investigator
Awarded: $403,533/4 years

2017 30. Mitacs Accelerate: *Sentiment Analysis with Parsed Representation of News Articles*
Role: Principal Investigator
Awarded: $15,000

2017 31. Amazon Academic Research Award
Role: Principal Investigator
Awarded: $50,607

2016-2017 32. Ontario Centres of Excellence VIP 1: *Deep Learning for Wound Segmentation and Analysis*
Role: Principal Investigator
Awarded: $25,000

2016-2017 33. NSERC Engage (matching): *Deep Learning for Wound Segmentation and Analysis*
Role: Principal Investigator
Awarded: $25,000

2016-2017 34. Mitacs Accelerate: *Recurrent Deep Architectures for Modeling Time Series Data*
Role: Principal Investigator

Awarded: $15,000

2016-2018 35. Canadian Institute for Advanced Research Cross-Program Collaborative Project: *Video-based Analysis of Social Behaviour in Drosophila*
Role: Co-Principal Investigator
Awarded: $120,000/2 years

2016-2018 36. Canadian Institute for Advanced Research Azrieli Global Scholars program: *Learning in Machines and Brains*
Role: Principal Investigator
Awarded: $100,000/2 years

2016 37. SHARCNET Dedicated Programming Round VIII: *Multi-node GPU Parallelism for Deep Learning*
Role: Principal Investigator
Awarded: 1 GPU programmer 0.5 time for 4 months

2016-2019 38. NSERC Strategic Partnership Grant: *DEEPVISION – Seeing and Understanding Humans with Deep Structured Models*
Role: Co-Principal Investigator
Awarded: $264,750/3 years (Total Grant: $529,500)

2016 39. SHARCNET Dedicated Programming Round VII: *Scalable Deep Learning Using Multiple GPUs*
Role: Principal Investigator
Awarded: 1 GPU programmer 0.5 time for 4 months

2016 40. Mitacs Globalink: *Deep Learning and Representation Learning for Sequential Data (2)*
Role: Principal Investigator
Awarded: 1 funded international undergraduate student for 12 weeks

2015-2016 41. NSERC Engage Plus Grant: *Bayesian Optimization for Archimedes Screw Model*
Role: Principal Investigator
Awarded: $25,000/9 months

2015-2016 42. Huawei Sponsored Research Agreement: *Machine Learning Hardware Acceleration Technology*
Role: Principal Investigator
Awarded: $123,841/1 year

2015-2016 43. Defense Advanced Research Projects Agency (DARPA): *Deep Temporal Models (Benchmarks and Applications Analysis)*
Role: Principal Investigator
Awarded: $308,291

2015 44. NSERC Engage Grant: *Design of Archimedes Screw Hydro Generator Model*
Role: Principal Investigator
Awarded: $24,868/6 months

2015-2018 45. Mitacs Accelerate PhD Fellowship: *Learning Representations of Customer Behaviour to Provide Actionable Insights in e-Commerce*
Role: Principal Investigator
Awarded: $90,000/3 years (only 1 year of funding used; project ended early because

student withdrew from program for personal reasons)

2014-2015 46. Google Advanced Technologies and Projects Sponsored Research Agreement: *Deep Learning for Continuous Authentication in Smartphones*
Role: Principal Investigator
Awarded: $125,529

2014 47. NSERC Regional Opportunities Fund: *Workshop on Geospatial Computing*
Role: Principal Investigator
Awarded: $5,000

2014-2015 48. NSERC Engage Plus Grant: *Machine learning for the remote monitoring of insect pests in agriculture*
Role: Principal Investigator
Awarded: $25,000/6 months

2014 49. Mitacs Globalink: *Deep Learning and Representation Learning for Sequential Data (1)*
Role: Principal Investigator
Awarded: 1 funded international undergraduate student for 12 weeks

2014 50. NSERC Engage Plus Grant: *Deep Scene Parsing From Hyperspectral Imagery*
Role: Principal Investigator
Awarded: $22,263/6 months

2014 51. NSERC Interaction Grant: *Interaction Between University of Guelph Machine Learning Research Group and Vancouver-based Technology Companies*
Role: Principal Investigator
Awarded: $3,672

2013-2014 52. NSERC Engage Grant: *Learning to detect insects in the field: towards a fully automated intelligent system for remote pest monitoring*
Role: Principal Investigator
Awarded: $25,000

2013-2014 53. NSERC Engage Grant: *Developing a deep scene parser for UAV-acquired images*
Role: Principal Investigator
Awarded: $23,500/6 months

2013-2018 54. CFI Leaders Opportunity Fund: *Massively parallel hardware accelerators for large-scale machine learning*
Role: Principal Investigator
Awarded: $119,972/5 years

2013-2018 55. Ontario Ministry of Research and Innovation CFI Match: *Massively parallel hardware accelerators for large-scale machine learning*
Role: Principal Investigator
Awarded: $119,971/5 years

2013 56. Mitacs Globalink: *Tractable feature discovery for reinforcement learning*
Role: Principal Investigator
Awarded: 1 funded international undergraduate student for 12 weeks

2013 57. Mitacs Globalink: *Machine learning for wind turbine design*
Role: Co-Principal Investigator (with W. Lubitz)

Awarded: 1 funded international undergraduate student for 12 weeks

2013-2014 58. NSERC Research Tools and Instruments: *GPU infrastructure for large-scale machine learning*
Role: Principal Investigator
Awarded: $98,258/1 year

2013-2019 59. NSERC Discovery Grant: *Deep Learning and Representation Learning for Sequential Data*
Role: Principal Investigator
Awarded: $150,000/6 years

ACTIVITIES

Senior Area Chair/Organizing Committee

2024 General Co-Chair, Canadian AI / Conference on Robots and Vision / Responsible AI

2019-2026 Neural Information Processing Systems (NeurIPS)

2023-2026 International Conference on Learning Representations (ICLR)

2022-2023 International Conference on Machine Learning (ICML)

2019 Workshop Co-Chair, ICLR

Area Chair/Senior Program Committee

2017-2018, 2021-2022 ICLR

2019-2021 ICML

2016-2019 NeurIPS

2016 NeurIPS Deep Learning Symposium

Program Committees

2021 Shared Visual Representations in Human & Machine Intelligence Workshop at NeurIPS (SVRHM)

2018 Association for the Advancement of Artificial Intelligence (AAAI)
Conference on Artificial Intelligence

2018 Medical Imaging with Deep Learning (MIDL)

2012-2018 International Conference on Machine Learning (ICML)

2012-2016 Uncertainty in Artificial Intelligence (UAI)

2013-2015 Face and Gesture (FG)

2009-2015 Neural Information Processing Systems (NeurIPS)

2011-2015 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)

2013-2016 International Conference on Learning Representations (ICLR)

2011-2017 Artificial Intelligence and Statistics (AISTATS)

2011 International Conference on Computer Vision (ICCV)

Other Committees and Organizational

2023-now EPSRC-funded Hub in Probabilistic AI (ProbAI), Advisory Board, Member

2023-now Organization for Economic Cooperation and Development (OECD), Expert Group on AI Futures, Member

2023-now Canada First Research Excellence Fund "Connected Minds", External Advisory Board, Member

2023-now York University Centre for AI and Society, Advisory Board, Member

2017-2018, 2023-2024 Canadian Institute for Advanced Research Deep Learning Summer School, Co-Organizer

2017-2020 IBM Watson AI XPRIZE, Judge

2017-2018 Vector Institute for Artificial Intelligence - 1000 AI Master's students working group, Committee Member

2017-2018 Brookfield Institute Report for the Ontario Government: *The Impact of Technological Change on Ontario's Workforce*, Expert Advisory Panel

2017 Japanese-Canadian Frontiers of Science Symposium, Co-Organizer

2016-2018 Southern Ontario Smart Computing and Innovation Platform, Scientific Advisory Committee

2012,2014 CVPR Tutorial on Deep Learning Methods for Vision

2011-2012 NeurIPS Workshop on Big Learning: Algorithms, Systems, and Tools for Learning at Scale

2011 NeurIPS Workshop on Learning Semantics

2011 ICML Workshop on Unsupervised and Transfer Learning

2011 CVPR Workshop on Gesture Recognition

2010-2011 NeurIPS Deep and Unsupervised Feature Learning Workshop

2010-2011 ICML Unsupervised and Transfer Learning Challenge

Journal reviewing

Journal of Machine Learning Research (JMLR)

IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)

International Journal of Computer Vision (IJCV)

IEEE Signal Processing Letters

Machine Learning (MLJ)

Neural Networks

Courses taught, University of Guelph

2017-2018, 2021, 2023-2025 **ENGG 3130: Modeling Complex Systems** (~20–40 3rd year students per offering)
Taught systems theory and computational modeling.

2019 **UNIV 6080: Computational Thinking for AI** (~25 Master's students per offering)
Taught mathematical and computational foundations for research in machine learning.

2013-2019 **ENGG 6500: Machine Learning** (~20 Master's and Doctoral students per offering)
Taught introductory applied machine learning course.

2012-2016 **ENGG 4450: Large-Scale Software Architecture Engineering** (~25 4th year students per offering)
Emphasized agile software processes, open-source, and distributed development.

2013-2015 **ENGG 1210: Engineering Mechanics** (~240 1st year students per offering)
Taught core course to engineering students from all disciplines.

Formal training in teaching

2008 **THE500: Teaching in Higher Education** (Certificate)
Office of Teaching Advancement, University of Toronto

CONTRIBUTIONS

Citations: 27,221, h-index: 57; Source: Google Scholar
Reference key:

- Students and postdocs I supervise are listed in bold font.
- Students and postdocs I co-supervise are listed in bold and italic font.
- Advisors are underlined for all papers arising from my PhD and post-doctoral research.

Journal articles [n=53]

1. P. M. Arias, N. Sadjadi, M. Safari, Z. Gong, A. Wang, J. B. Haurum, **I. Zarubiieva**, D. Steinke, L. Kari, A. Chang, ***S. Lowe***, and G. Taylor. BarcodeBERT: Transformers for biodiversity analyses. *Bioinformatics Advances*, 6(1):vbag054, 2026. Early version appeared at the Neural Information Processing Systems (NeurIPS) Workshop on Self-Supervised Learning: Theory and Practice.

2. L. Pollock, J. Kitzies, S. Beery, K. Gaynor, M. Jarzyna, O. M. Aodha, B. Meyer, D. Rolnick, G. Taylor, D. Tuia, and T. Berger-Wolf. Harnessing artificial intelligence to fill global shortfalls in biodiversity. *Nature Reviews*, 2025.

3. H.-H. Nguyen, J. Rudar, **N. Lesperance**, O. Vernygora, G. Taylor, C. Laing, D. Lapen, C. K. Leung, and O. Lung. WaveSeekerNet: Accurate prediction of influenza a

virus subtypes and host source using attention-based deep learning. *GigaScience*, 14:giaf089, 2025.

4. A. East, E. G. Campolongo, L. Meyers, S. M. Rayeed, S. Stevens, **I. Zarubiieva**, I. E. Fluck, J. C. Girón, M. Jousse, ***S. Lowe***, K. I. Perry, I. Betancourt, N. Charney, E. Donoso, N. Fox, K. J. Landsbergen, E. Nepovinnykh, M. Ramirez, P. Singh, K. Thapa-Magar, M. Thompson, E. Waite, T. Berger-Wolf, H. Lapp, P. Mabee, C. Stewart, G. Taylor, and S. Record. Optimizing image capture for computer vision-powered taxonomic identification and trait recognition of biodiversity specimens. *Methods in Ecology and Evolution*, 16(10):2260–2275, 2025.

5. ***N. Dey***, **E. Taylor**, A. Wong, B. P. Tripp, and G. Taylor. Neuron-based explanations of neural networks sacrifice completeness and interpretability. *Transactions on Machine Learning Research*, 2025.

6. C. Judge, F. Krewer, M. O'Donnell, L. Kiely, D. Sexton, G. Taylor, J. Skorburg, and B. Tripp. Multimodal artificial intelligence in medicine. *Kidney360*, 5(11):1771–1779, 2024.

7. M. Arshad, S. Shankar, A. Mohanty, J. Todd, R. Riddle, R. V. Acker, G. Taylor, and M. Misra. Improving the barrier and mechanical properties of paper used for packing applications with renewable hydrophobic coatings derived from camelina oil. *ACS Omega*, 9, 2024.

8. M. Hassan, M. Misra, G. Taylor, and A. Mohanty. A review of AI for optimization of 3d printing of sustainable polymers and composites. *Composites Part C: Open Access*, 15, 2024.

9. M. Wang, Y. Li, J. Zhou, G. Taylor, and M. Gong. GCNet: Probing Self-Similarity Learning for Generalized Counting Network. *Pattern Recognition*, 153, 2024.

10. C. Kupferschmidt, A. Binns, **K. Kupferschmidt**, and G. Taylor. Stable rivers: A case study in the application of text-to-image generative models for Earth sciences. *Earth Surface Processes and Landforms*, 49(13):4213–4232, 2024.

11. **R. Li**, S. Ratnasingham, **I. Zarubiieva**, P. Somervuo, and G. Taylor. PROTAX-GPU: A scalable probabilistic taxonomic classification system for DNA barcodes. *Philosophical Transactions of the Royal Society B*, 379(1904), 2024.

12. C. Wickens, V. Popal, V. Fecteau, C. Amoroso, G. Stoduto, T. Rodak, L. Li, A. Hartford, S. Wells, T. Elton-Marshall, H. Hamilton, G. Taylor, and **K. Kupferschmidt**. The mental health impacts of the COVID-19 pandemic among individuals with depressive, anxiety, and stressor-related disorders: A scoping review. *PLOS ONE*, 18:1–33, 2023.

13. J. Skorburg, **K. Kupferschmidt**, and G. Taylor. "Large Language Models" Do Much More than Just Language: Some Bioethical Implications of Multi-Modal AI. *The American Journal of Bioethics*, 23(10):110–113, 2023.

14. ***S. Schneider***, G. Taylor, S. Kremer, and J. Fryxell. Getting the bugs out of AI: Advancing ecological research on arthropods through computer vision. *Ecology Letters*, 26:1247–1258, 2023.

15. ***A. Galloway***, A. Golubeva, **M. Salem**, M. Nica, Y. Ioannou, and G. Taylor. Bounding generalization error with input compression: An empirical study with infinite-width networks. *Transactions on Machine Learning Research (TMLR)*, 2022.

16. ***S. Schneider***, G. Taylor, and S. C. Kremer. Similarity learning networks for animal individual re-identification: an ecological perspective. *Mammalian Biology*, 102:899–914, 2022.

17. ***A. Galloway***, D. Brunet, R. Valipour, M. McCusker, J. Biberhofer, M. Sobol, M. Moussa, and G. Taylor. Predicting dreissenid mussel abundance in nearshore waters using underwater imagery and deep learning. *Limnology and Oceanography: Methods*, 20:233–248, 2022.

18. **M. Adnan**, S. Kalra, J. Cresswell, G. Taylor, and H. Tizhoosh. Federated learning and differential privacy for medical image analysis. *Nature Scientific Reports*, 12(1953), 2022. Early version appeared at the Association for the Advancement of Artificial Intelligence (AAAI) Workshop: Trustworthy AIfor Healthcare.

19. ***S. Schneider***, G. Taylor, S. Kremer, P. Burgess, J. McGroarty, K. Mitsui, A. Zhuang, J. deWaard, and J. Fryxell. Bulk arthropod abundance, biomass, and diversity estimation using deep learning for computer vision. *Methods in Ecology and Evolution*, 13:346–357, 2022.

20. **E. Taylor**, **S. Shekhar**, and G. Taylor. Neural response time analysis: XAI using only a stopwatch. *Applied AI Letters*, 2(4), 2021.

21. K. Hueniken, N. H. Somé, M. Abdelhack, G. Taylor, T. Elton Marshall, C. M. Wickens, H. A. Hamilton, S. Wells, and D. Felsky. Machine learning–based predictive modeling of anxiety and depressive symptoms during 8 months of the COVID-19 global pandemic: Repeated cross-sectional survey study. *JMIR Mental Health*, 8(11):e32876, 2021.

22. C. Kim, X. Lin, C. Collins, G. Taylor, and M. Amer. Learn, generate, rank, explain: A case study of visual explanation by generative machine learning. *ACM Transactions on Interactive Intelligent Systems (TiiS)*, 11(3–4):1–34, 2021.

23. **B. Knyazev**, ***C. Augusta***, and G. Taylor. Learning temporal attention in dynamic graphs with bilinear interactions. *PLOS One*, 16(3), 2021.

24. **E. Taylor** and G. Taylor. Artificial cognition: How experimental psychology can help generate explainable artificial intelligence. *Psychonomic Bulletin & Review*, 28:454–475, 2021.

25. ***S. Schneider***, S. Greenberg, G. Taylor, and S. Kremer. Three critical factors affecting

automated image species recognition performance for camera traps. *Ecology and Evolution*, 10(7):3503–3517, 2020.

26. ***A. Elshamli***, G. Taylor, and S. Areibi. Multisource domain adaptation for remote sensing using deep neural networks. *IEEE Transactions on Geoscience and Remote Sensing*, 58(5):3328–3340, 2020.

27. ***D. Kumar***, V. Sankar, D. Clausi, G. Taylor, and A. Wong. SISC: End-to-end interpretable discovery radiomics-driven lung cancer prediction via stacked interpretable sequencing cells. *IEEE Access*, 7:145444–145454, 2019.

28. ***C. Augusta***, G. Taylor, and R. Deardon. Dynamic contact networks of swine movement in manitoba, canada: Characterization and implications for infectious disease spread. *Transboundary and Emerging Diseases*, 66(5):1910–1919, 2019.

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56. Danielle Groen. How We Made AI As Racist and Sexist As Humans. *The Walrus*. May 16, 2018.

57. New Frontiers in Deep Learning Research with Graham Taylor and David Duvenaud. *In Context Podcast*. March 29, 2018.

58. Eva Voinigescu. CIFAR Azrieli Global Scholar Profile: How Graham Taylor champions AI innovation & entrepreneurship. www.cifar.ca. November 7, 2017.

59. Learning to Learn, and other Opportunities in Machine Learning with Graham Taylor. *This Week in Machine Learning and AI Podcast*. November 3, 2017.

60. Jonathan Vanian. Futuristic Robots Are Lending Their Hands in Gap's Warehouse. *Fortune*. October 22, 2017.

61. Brian Jackson. Element AI, NextAI research leads on AI challenges and opportunities for businesses. *IT World Canada Interview*. October 19, 2017.

62. Mary Teresa Bitti. Need a new logo? Your artificial intelligence system will think of

one. *Financial Post*. September 22, 2017.

63. Denise Deveau. Brain Drain Reversal a Boon for Canadian Tech. *National Post*. March 20, 2017.

64. Denise Deveau. Revolution AI: First cohort underway at NextAI; 20 teams set out to develop marketable AI solutions. *Financial Post*. March 10, 2017.

65. Business News Network. The Rise of Artificial Intelligence. *The Disruptors*. February 2, 2017.

66. Andrea Perry. The Human Side of Machine Learning. *Guelph Life*. January-February, 2017.

67. Denise Deveau. Share alike for machine learning. *InsightaaS*. December 5, 2016.

68. Allison Tanner. Ditching phone passwords. *CTV News*. March 30, 2016.

69. Jackie Sharkey. Google and University of Guelph Team Up to Abolish Android Smartphone Passwords. *CBC News*. March 29, 2016.

70. Jack Clark. Apple's Deep Learning Curve. *Bloomberg News*. October 29, 2015.

71. Dana Liebelson. Do Androids Dream of Electric Lolcats?. *Mother Jones Magazine*. September-October 2014.

72. Marco Hochgemuth. Computer Vision meets Dutch Music Video. *Radio Netherlands Worldwide.*, Jun 8, 2011.

73. Clark Boyd. Dutch band C-Mon & Kypski's Crowdsourcing Video. *Public Radio International: The World*, Jun 1, 2011.

74. Discovery Channel. Motion Capture. *Innovation Nation with Miles O'Brien*, Dec 29, 2010.

75. Christoph Weiss. Crowd2cloud. *FM4 ORF Austrian radio*, Sep 14, 2010. (in German).

76. Ars Electronica Festival (TV segment). *Servus TV*, Sep 11, 2010. (in German and English).

77. Ars Electronica Festival (TV segment). *Repair TV*, Sep 5, 2010. (in German and English).

78. Hugh Hart. Hallucinatory Art Snags Attention at Ars Electronica Festival. *Wired Blog*, Aug 31, 2010.

Invited talks and panels [n=142]

1. Improving image-based taxonomic classification by training with DNA barcodes, 2025. Invited talk, Inter Math AI Program, University of Ottawa, October 3, Ottawa, Canada.

2. Improving image-based taxonomic classification by training with DNA barcodes,

2025. Invited talk, CHAI talk series, IIT Guwahati, June 12, Online.

3. Introduction to artificial intelligence and machine learning, 2025. Invited talk, Georgian Triangle Lifelong Learning Institute, March 21, Collingwood.

4. BIOSCAN Developments: Taxonomic Classification with Images & DNA Barcodes, 2025. Invited talk, Centre for Research in Mathematics (CIMAT, Mexico), March 10, Online.

5. BIOSCAN Developments: Taxonomic Classification with Images & DNA Barcodes, 2024. Invited talk, Roche, October 23, Mississauga.

6. Diverse voices shaping the digital future, 2024. Panelist, College of Engineering and Physical Sciences, October 17, Guelph.

7. Seeds of change, 2024. Panelist, MaRS Mornings, October 17, Toronto.

8. BIOSCAN Developments: Taxonomic Classification with Images & DNA Barcodes, 2024. Invited talk, Vector Institute Foundation Models for Science Symposium, October 11, Online.

9. Decoding the living library: Computer vision in biodiversity science, 2024. Invited talk, Vector Institute AI Engineering team, May 1, Toronto.

10. Opening up generative AI, 2024. Invited talk, Farm & Food Care Ontario Annual General Meeting, April 10, Elora.

11. Decoding the living library: Computer vision in biodiversity science, 2024. Keynote talk, Vector Institute Computer Vision Workshop, March 21, Toronto.

12. Introduction to artificial intelligence and machine learning, 2024. Invited talk, Lifelong Learning Niagara, March 12, Online.

13. Introduction to artificial intelligence and machine learning, 2024. Invited talk, Extended Learning Opportunities, February 15, Erin.

14. The impact of AI research in Canada and beyond, 2024. Panel Moderator, Vector Founder's Dinner, February 7, Toronto.

15. Decoding the living library: AI's role in cataloging biodiversity, 2023. Keynote talk, Conference on Computer Vision and Intelligent Systems (CVIS), December 6, Waterloo.

16. Opening up generative AI, 2023. Invited talk, CIFAR Board Meeting, November 21, Toronto.

17. Open foundation models: Revolutionizing engineering with caution, 2023. Invited talk, Ontario Network of Women in Engineering, November 15, Hamilton.

18. Decoding the living library: AI's role in cataloging biodiversity, 2023. Keynote talk, Innovation Nation Conference & Student Innovation Showcase, November 5, Hamilton.

19. Forecasting for Canada's food price report, 2023. Invited talk, TD Data & Analytics Summit, October 19, Toronto.

20. AI panel, 2023. Panelist, OMERS CEO Forum, October 17, Toronto.

21. Introduction to artificial intelligence and machine learning, 2023. Invited talk, Third Age Learning, September 14, Guelph.

22. Generative AI: Business applications of the future, 2023. Panelist, Guardrails and Governance, Globe and Mail, September 11, Toronto.

23. Conformal prediction under distribution shift and long-tailed labels, 2023. Invited talk, International Barcode of Life Conference, August 10, Guelph.

24. Machine learning for biodiversity, 2023. Invited talk, The Walrus Talks Artificial Intelligence, June 28, Toronto.

25. Machine learning for biodiversity, 2023. Invited talk, CVPR-2023 Workshop on Learning with Limited Labelled Data for Image and Video Understanding, June 19, Online.

26. Machine learning for biodiversity, 2023. Invited talk, CIFAR AIfor Energy and the Environment Symposium, March 21, Toronto.

27. Machine learning for biodiversity, 2023. Invited talk, McMaster University Computational Sciences & Engineering Seminar Series, February 15, Online.

28. Machine learning for biodiversity, 2023. Invited talk, Acadia University Institute for Data Analytics Seminar Series, February 13, Online.

29. Reducing deep learning compute by hypernetwork-based parameter prediction, 2022. Invited talk, Sun Life Analytics Conference, November 21, Online.

30. Forecasting for Canada's Food Price Report, 2022. Endless Summer School, Vector Institute, September 29, Toronto, Canada.

31. Reducing deep learning compute by hypernetwork-based parameter prediction, 2022. Invited talk, Defense Research and Development Canada Ottawa Research Centre, September 14, Online.

32. Reducing deep learning compute by hypernetwork-based parameter prediction, 2022. Invited talk, University of Toronto Department of Computer Science, July 22, Online.

33. Dr. Alex Wong and Dr. Graham Taylor, fireside chat, 2022. Invited talk, Centre for Advancing Responsible and Ethical Artificial Intelligence, May 31, Online.

34. AI meets diversity & inclusion, 2022. Panelist, Canadian German Chamber of Industry and Commerce, May 26, Online.

35. Reducing deep learning compute by hypernetwork-based parameter prediction, 2022. Invited talk, New York Artificial Intelligence for Good Group, May 18, Online.

36. Predicting the parameters of a neural network without training it, 2022. Invited talk, United Nations International Telecommunication Union 'AI for Good' talk series, March 14, Online.

37. Understanding the impacts of diverse training sets in self-supervised learning and predicting parameters for unseen deep architectures, 2022. Keynote talk, AAAI-22 Workshop on Human-Centric Self-Supervised Learning, March 1, Online.

38. AI & One Health as complex systems, 2021. Invited Talk, IEEE International Symposium on Technology and Society, October 30, Online.

39. Machine learning in One Health, 2021. Invited talk, Toronto Machine Learning Society ML in Healthcare Summit, July 21, Online.

40. Advances in conditional generative models, 2021. Keynote talk, Canadian AI Conference, May 27, Online.

41. Advances in conditional generative models, 2021. Keynote talk, Ontario Workshop on Computer Vision, April 21, Online.

42. Business insights: Equity, diversity, and inclusion in AI – 'lessons learned from industry', 2021. Panelist, Vector Institute, April 14, Online.

43. Genius Makers: NYT's Cade Metz in conversation with Vector faculty member Graham Taylor, 2021. Fireside chat, Vector Institute, March 15, Online.

44. Advances in conditional generative models, 2021. Seminar, HHMI Janelia Research Institute, February 11, Online.

45. The ethical and legal quandaries of engineering AI systems, 2021. Keynote talk, PEO Grand River Chapter Annual General Meeting, February 8, Online.

46. 15 years of conditioning generative models, 2020. Invited talk, Waterloo AI Institute Seminar Series, December 1, Online.

47. How experimental psychology can help explainable artificial intelligence, 2020. Keynote talk, Conference on Vision and Imaging Systems, November 25, Online.

48. How experimental psychology can help explainable artificial intelligence, 2020. Invited talk, University of Guelph One Health Institute Seminar Series, November 18, Online.

49. Deep learning, 2020. Invited talk, Aviva, September 18, Online.

50. Response time analysis for explainability of visual processing in CNNs, 2020. Invited talk, Manulife, September 17, Online.

51. Guelph centre for advancing responsible and ethical artificial intelligence, 2020. Invited talk, Rotary Club of Guelph, September 11, Online.

52. Deep learning, 2020. Invited talk, Queen's University Executive MBA Program, August 10, Online.

53. Guelph centre for advancing responsible and ethical artificial intelligence, 2020. Invited talk, Guelph Men's Club, June 18, Online.

54. Groundwork for machine learning and deep learning in ecology, 2020. Invited talk, IEEE Winter Conference on Applications of Computer Vision (WACV) Workshop on AI for Animal Re-ID, March 1, Snowmass Village, USA.

55. On conditional generative adversarial networks: Iterative generation and holistic evaluation, 2019. Invited talk, University of British Columbia CAIDA Seminar Series, December 6, Vancouver, Canada.

56. Tell, draw, and repeat, 2019. Endless Summer School, Vector Institute, November 20, Toronto, Canada.

57. Reproducability and responsibility in AI research, 2019. Invited talk, Master of Management & Professional Accounting Conference, University of Toronto Mississauga, November 15, Mississauga, Canada.

58. AI and machine learning, 2019. Keynote talk, Receivables Management Association Canada Annual Conference, November 13, Toronto, Canada.

59. Guelph centre for advancing responsible and ethical artificial intelligence, 2019. Keynote talk, AI Squared Forum, September 22, Toronto, Canada.

60. Guelph centre for advancing responsible and ethical artificial intelligence, 2019. Invited talk, TD Bank Executives Off-Site, September 16, Elora, Canada.

61. AI for engineering. Keynote talk, AI for Engineering Summer School, August 13, Toronto, Canada.

62. Introduction to convolutional neural networks, 2019. Invited talk, CIFAR Deep Learning Summer School, July 24, Edmonton, Canada.

63. Machine learning and deep learning, 2019. Invited talk, CIFAR Summer Institute on AI & Society, July 22, Edmonton, Canada.

64. Towards interpretable and robust machine learning systems, 2019. Invited talk, Université Cote d'Azur Deep Learning School, July 18, Sophia-Antipolis, France.

65. Generative models, 2019. Panelist, Disruption Plenary Panel, Agri-Food Excellence Symposium, University of Guelph, July 21, Guelph, Canada.

66. AI and machine learning. Invited talk, Credit Institute of Canada Conference, June 13, Niagara Falls, Canada.

67. Batch normalization is a cause of adversarial vulnerability, 2019. Invited talk, National Research Council, June 7, Ottawa, Canada.

68. AI ethics, 2019. Panelist, Data Effect Conference, June 6, Ottawa, Canada.

69. Reproducibility and responsibility in AI research, 2019. Invited talk, Media Ethics Conference: The 20th Annual Convention of the Media Ecology Association, June 27,

Toronto, Canada.

70. Teachers of humans, teachers of machines, 2019. Keynote talk, Liberal Education in the Age of Automation, Mount Royal University, May 16, Calgary, Canada.

71. Deep learning for recognizing species and individuals, 2019. Invited talk, Guelph BioMathematics & Statistics Symposium, May 13, Guelph, Canada.

72. Learning deep multi-modal fusion architectures, 2019. Invited talk, International Research Center for Neurointelligence Neuro-inspired Computation Course, March 23, Tokyo, Japan.

73. High performance computing and neuroscience, 2019. Invited talk, CIFAR and Helmholtz Institute workshop: AI for Neuroscience, Canadian Institute for Advanced Research, January 16, Toronto, Canada.

74. Learning deep multi-modal fusion architectures, 2018. Invited talk, Element AI, November 26, Montreal, Canada.

75. Learning to fuse multi-modal sequences, 2018. Endless Summer School, Vector Institute, November 21, Toronto, Canada.

76. Advances in low precision learning, 2018. Invited talk, Re-work Deep Learning Summit, October 25, Toronto, Canada.

77. Learning deep multi-modal fusion architectures, 2018. Invited talk, Facebook AI Research, October 23, Montreal, Canada.

78. Perspective from computer science and engineering, 2018. Invited talk, CIFAR workshop: How Can Society Most Effectively Channel Machine Intelligence to Enhance Social Welfare and Economic Efficiency?, Canadian Institute for Advanced Research, September 15, Toronto, Canada.

79. Efficient techniques for learning confidence, 2018. Keynote talk, Medical Imaging and Deep Learning, July 4, Amsterdam, the Netherlands.

80. Efficient techniques for learning confidence, 2018. Kavli Institute for Systems Neuroscience, July 2, Trondheim, Norway.

81. Efficient techniques for learning confidence, 2018. Amazon Lab 126, June 14, Cupertino, USA.

82. Deep learning for recognizing species and individuals, 2018. Invited talk, June 6, Statistical Society of Canada Annual Meeting, Montreal, Canada.

83. What if things start to think for themselves? the promise and peril of artificial intelligence, 2018. Institute for Science, Society and Policy and the Royal Canadian Institute for Science, May 22, Ottawa, Canada.

84. Machine learning for smart water management, 2018. Invited talk, May 16, Sino-American Technology & Engineering Conference, Jinan, China.

85. From design to search in high-dimensional spaces, 2018. Keynote talk, May 12, SmartGeometry Conference, Toronto, Canada.

86. Efficient techniques for learning confidence, 2018. CIFAR Learning in Machines and Brains Program Meeting, April 28, Vancouver, Canada.

87. AI 101: Understanding the technology, 2018. Invited talk, March 23, AI + Public Policy: Understanding the shift, Brookfield Institute, Toronto, Canada.

88. Introduction to artificial intelligence & machine learning, 2018. Invited talk, May 17, College Royal, University of Guelph, Guelph, Canada.

89. Advances in low precision learning, 2018. University of British Columbia, February 14, Vancouver, Canada.

90. Advances in low precision learning, 2017. CIFAR Learning in Machines and Brains Program Meeting, December 3, Long Beach, United States.

91. Business reinventing innovation, 2017. Panelist, UOttawa Forum for Dialogue, December 1, Ottawa, Canada.

92. Advances in low precision learning, 2017. Endless Summer School, Vector Institute, November 29, Toronto, Canada.

93. Artificial intelligence now and ten years from now, 2017. Invited talk, Norton Rose Fulbright AI Summit, November 15, Toronto, Canada.

94. Living among intelligent machines, 2017. Panelist, The Derry Dialogues, University of Guelph, November 6, Guelph, Canada.

95. A perspective on AI, 2017. Keynote talk, October 25, Georgian Partners Portfolio Conference, Toronto, Canada.

96. Panel: Fintech: How will AI transform financial services?, 2017. Moderator, Canadian Innovation Exchange (CIX) Summit, October 18, Toronto, Canada.

97. Simplified extraction of plot trials from UAV images, 2017. Invited talk, Ontario Ministry of Food, Agriculture & Rural Affairs, October 4, Guelph, Canada.

98. Advances in deep learning for vision: Algorithms, applications, and acceleration, 2017. Invited talk, Conference on Big Data and Information Analytics, September 20, Toronto, Canada.

99. Dataset augmentation in feature space, 2017. Invited talk, September 15, Perimeter Institute, Waterloo, Canada.

100. Artificial intelligence: the human side of machine learning, 2017. Invited talk, CanadianCIO Innovation Summit, September 17, Montebello, Canada.

101. Model selection and optimization, 2017. Invited talk, Google for Entrepreneurs Exchange, June 22, Toronto, Canada.

102. Going deep on artificial intelligence (panel), 2017. Invited talk, Ontario Centres of Excellence, Discovery Conference, May 16, Toronto, Canada.

103. Rise of the robots −− how artificial intelligence is changing what we know about technology, 2017. Panelist, National Bank Financial, Lunch and Learn, March 30, Toronto, Canada.

104. Innovation leadership in AI, 2017. Digital Finance Institute, AI Toronto, March 29, Toronto, Canada.

105. Machines that learn to create, 2017. Canadian Institute for Advanced Research, Board Dinner, February 16, Toronto, Canada.

106. Dataset augmentation in feature space, 2017. Fields Institute, University of Toronto, February 2, Toronto, Canada.

107. Dataset augmentation in feature space, 2017. Department of Mathematics and Statistics, University of Ottawa, January 27, Ottawa, Canada.

108. Dataset augmentation in feature space, 2017. Centre for Vision Research, York University, January 25, Toronto, Canada.

109. Dataset augmentation in feature space, 2017. Brain and Mind Institute, Western University, January 20, London, Canada.

110. Dataset augmentation in feature space, 2016. CIFAR Learning in Machines and Brains Program Meeting, December 3, Barcelona, Spain.

111. Deep learning: Challenges and opportunities, 2016. Western/SHARCNET Workshop on Deep Learning and OpenPOWER, October 21, London, Canada.

112. Learning deep multimodal fusion architectures, 2016. Apple, September 6, Cupertino, USA.

113. Learning deep multi-modal fusion architectures, 2016. Invited talk, July 1, CVPR Workshop on Deep Learning for Vision, Las Vegas, USA.

114. Careers in mathematics and statistics, 2016. Panelist, June 13, Southern Ontario Graduate Mathematics and Statistics Conference, Guelph, Canada.

115. Commentary: Deep learning in health care, 2016. Invited talk, June 8, IDEXX Digital Animal Health Summit, Portland ME, USA.

116. Hardware acceleration for deep learning, 2016. Invited talk, Compute Ontario Research Day, May 27, Toronto, Canada.

117. Deep learning, 2016. College of William and Mary, April 27, Williamsburg, USA.

118. Mental rotation by optimizing transforming distance, 2016. INSA-Lyon, April 13, Lyon, France.

119. Learning multi-scale temporal dynamics with recurrent neural networks, 2016.

Kavli Institute for Systems Neuroscience, April 6, Trondheim, Norway.

120. Hardware acceleration for deep learning, 2016. Invited talk, Trondheim Big Data Meetup, April 5, Trondheim, Norway.

121. Learning multi-scale temporal dynamics with recurrent neural networks, 2015. NIPS Workshop on Modelling and Inference for Dynamics on Networks, December 17, Montreal, Canada.

122. Deep learning and its challenges for technical computing, 2015. College of William and Mary, November 12, Williamsburg, USA.

123. Seeing people with deep learning, 2015. Vision and Image Processing Lab, University of Waterloo, October 8, Waterloo, Canada.

124. Learning to compare, 2015. CIFAR Deep Learning Summer School, August 6, Montreal, Canada.

125. Seeing people with deep learning, 2015. CIFAR Deep Learning Summer School, August 7, Montreal, Canada.

126. Mental rotation by optimizing transforming distance, 2015. Computer and Robot Vision Conference, June 5, Halifax, Canada.

127. Deep learning and its challenges for technical computing, 2015. Computational Mathematics Colloquium, University of Waterloo, April 7, Waterloo, Canada.

128. Mental rotation by optimizing transforming distance, 2015. Kavli Institute for Systems Neuroscience, February 20, Trondheim, Norway.

129. Deep learning and its challenges for technical computing, 2015. Hardware Acceleration Technology Symposium, February 8, Toronto, Canada.

130. Learning representations with multiplicative interactions, 2014. Centre for Theoretical Neuroscience, University of Waterloo, December 16, Waterloo, Canada.

131. A tutorial on deep learning for vision, 2014. Centre for Mathematical Research (CIMAT), October 17, Guanajuato, Mexico.

132. An overview of deep learning and its challenges for technical computing, 2014. International Workshop on Technical Computing for Machine Learning and Mathematical Engineering, September 12, Leuven, Belgium.

133. Deep learning to "see" people, 2014. CVPR Workshop on Computational Models of Social Interactions and Behavior, July 14, Columbus, USA.

134. Feature learning for comparing examples, 2014. INSA-Lyon, April 3, Lyon, France.

135. Learning salient representations for the analysis of human pose and activity, 2012. Department of Computer Science and Operations Research, Université de Montréal, January 16, Montreal, Canada.

136. Learning representations of sequences, 2012. Institute for Pure and Applied Mathematics Graduate Summer School on Deep Learning and Feature Learning, July 13, Los Angeles, USA.

137. Feature learning for comparing examples, 2012. Institute for Pure and Applied Mathematics Graduate Summer School on Deep Learning and Feature Learning, July 13, Los Angeles, USA.

138. Learning representations of sequences, 2012. University of California, San Diego COGS 200 Seminar: Back-propagation 25 years later, May 18, San Diego, USA.

139. Learning invariant representations for the analysis of human pose and activity, 2011. Google, June 13, Mountain View, USA.

140. Learning invariant representations for the analysis of human pose and activity, 2011. Max Planck Institute for Intelligent Systems, April 12, Tubingen, Germany.

141. Learning invariant representations for the analysis of human pose and activity, 2010. CIFAR Neural Computation and Adaptive Perception Meeting, December 4, Vancouver, Canada.

142. Convolutional architectures for the analysis of human activity, 2010. Carnegie Mellon University VASC Seminar, November 15, Pittsburgh, USA.

OTHER

Current trainees

Note: Co-advised trainee names are *italicized*.

	NAME	DEGREE / POSITION	YEARS
Master's	Tiancheng Gao	MASc	2025–now
	Vivian Phung	MBINF	2025–now
	Mohamed Mostafa	MASc	2024–now
Doctoral	Michal Lisicki	PhD	2018–now
	Nathan Grewal	PhD	2025–now
Postdoctoral Fellow	Iuliia Eyriay	Postdoc	2023–now
	Scott Lowe	Postdoc	2022–now
Other	Emma-Lise Boehly	Research Associate	2025–now
	Neelu Madan	Visiting Researcher	2025–now
	Anna Viklund	Software Engineer	2025–now
	Shuting Xie	Research Associate	2025–now

Past trainees

	NAME	DEGREE / POSITION	YEARS	CURRENT POSITION
Undergraduate	Prajakta Darade	Mitacs Globalink Intern	2024	B.Tech. in CSE, IIT Indore
	Ryan Junejo	URA	2024	BASc Student, University of Toronto
	Mya Simpson	URA	2024	BEng Student, University of Guelph
	Zohrah Bee Varsally	URA	2024	BEng Student, University of Guelph
	Andrew Comtois	URA	2024	BEng Student, University of Guelph
	Roy Li	URA	2022–2023	BASc Student, University of Toronto
	Yannis He	Undergraduate Thesis	2022–2023	BASc Student, University of Toronto
	Rylee Thompson	URA	2020–2021	ML Researcher, Huawei Technologies Canada
	Yinghan Chen	URA	2020	BASc Student, University of Waterloo
	Owen Kidnie	URA	2019	BEng Student, University of Guelph
	Kumar Nilay	URA	2019	Quantitative Research Analyst, JPMorgan Chase & Co.

	Hannah Szentimrey	URA	2018	MASc Student, University of Guelph
	Daniel Deen	URA	2018	BComp Student, University of Guelph
	Laura Mann	URA	2017	BSc Student, Trent University
	Nihal Murali	Mitacs Globalink Intern	2017	PhD Student, University of Pittsburgh
	Matt Saunders	URA	2016–2017	Sr. Computer Engineering Lab Coordinator, University of Guelph
	Kelly Gribbons	URA	2016	MASc Student, University of Waterloo
	Jeronimo Zizumbo	Mitacs Globalink Intern	2016	PhD, National Autonomous University of Mexico
	Ana Paula de Sousa Marques	URA	2015	Bachelor's Student, University of Brasilia
	Akhmed Rakhmati	URA	2015	Deep Learning Developer, TensTorrent
	Craig Lehmann	BComp thesis	2014	Senior Software Engineer, Shopify
	Ruoyan Wang	Mitacs Globalink Intern	2014	Software Engineer, LinkedIn
	Terrance DeVries	URA	2013	PhD Student, University of Guelph
	Ethan Buchman	BSc thesis	2013	CEO, Cycles Protocol
	Kumar Biswaranjan	Mitacs Globalink Intern	2013	Senior R&D Engineer at Hewlett-Packard
	Samresh Satapathy	Mitacs Globalink Intern	2013	Manager, Tata Steel
	Matthew Zeiler	BASc thesis	2008	CEO and Founder, Clarifai
Master's	John Quinto	MASc	2023–2025	Intermediate AI Specialist, Mission Control
	Akshita Gupta	MASc	2022–2024	PhD Student, TU Darmstadt
	Anton Naim Ibrahim	MASc	2022–2024	Quantum Computing Scientist, Xanadu
	Kevin Kasa	MASc	2022–2024	AI Researcher, LawZero

	Lubaina Ahmed Kothari	MBINF	2024	
	Nathaniel Lesperance	MBINF	2024	
	Xiao Li (Cynthia) Du	MBINF	2024	
	Benjamin Chapman-Kish	MASc (transferred to MEng)	2022–2024	Master's Student, University of Guelph
	Sara El-Shawa	MASc	2020–2023	Senior ML Engineer, Inari Agriculture
	Rylee Thompson	MASc	2021–2023	ML Researcher, Huawei Technologies Canada
	Mahmoud Gamal Salem	MASc	2020–2023	Researcher, Cerebras Systems
	Shashank Shekhar	MASc	2019–2022	Research Engineer, Google DeepMind
	Nolan Dey	MASc	2019–2021	Senior ML Research Scientist, Cerebras Systems
	Brendan Duke	MASc	2017–2020	Staff Engineer, Modular
	Adam Balint	MASc	2017–2019	AI Research Engineer, NOUL Co., Ltd.
	Maeve Kennedy	MASc (withdrew from program for personal reasons)	2017–2019	Independent Consulting Software Developer
	Shamak Dutta	MASc	2017–2019	Research Scientist, Meta
	Alaaeldin Ali	MASc	2017–2019	PhD student, Meta FAIR / Inria Rennes
	Vithursan Thangarasa	MASc	2017–2019	Sr. ML Research Scientist, Cerebras Systems
	Thorsteinn Jonsson	MASc (withdrew from program for personal reasons)	2016–2019	President, FenrirAI
	Colin Brennan	MASc	2016–2018	Data Scientist, Cognitive Systems Corp.
	Jesse Knight	MASc	2016–2017	Research Associate, Imperial College London

	Nikhil Sapru	MASc	2015–2020	Product Manager (AI Platform Engineering), Uber
	Matthew Veres	MASc	2014–2016	Research Engineer, University of Guelph
	Griffin Lacey	MASc	2014–2016	Sr. Manager, AI Factory Technical Sales, NVIDIA
	Ethan Buchman	MASc	2013–2016	CEO, Cycles Protocol
	Jan Rudy	MASc	2013–2015	Senior Staff ML Researcher, Ocado Technology
	Daniel Jiwoong Im	MASc	2013–2015	Founder, Belief.Market
	He Ma	MEng	2015	Manager, AMA Transaction Monitoring, Scotiabank
	Ammar Abu-Leil	MASc	2013–2015	Technical Lead, Forum Ventures
	Oana Burlacu	MEng	2013–2014	QA Analyst, Emerging Pmt Device Software, Moneris Solutions
Doctoral	Kristina Kupfer-schmidt	PhD	2020–2025	Assistant Professor, University of Prince Edward Island
	Angus Galloway	PhD	2016–2023	Independent Researcher
	Eu Wern Teh	PhD	2017–2022	AI Research Scientist, LG AI Research
	Boris Knyazev	PhD	2017–2022	Research Scientist, Samsung SAIT AI Lab
	Terrance DeVries	PhD	2016–2021	Research Scientist, Luma AI
	Carolyn Augusta	PhD	2014–2020	Lecturer, University of Saskatchewan
	Ahmed Elshamli	PhD	2015–2020	Senior Data Specialist, Planitar Inc.
	Devinder Kumar	PhD	2017–2019	Head of ML Systems and Engineering, TD Layer 6
	Katya Kudashkina	PhD (advisor change in 2020)	2017–2020	Director of Engineering, Intelligent Search and Assistant, Ceridian
	Natalia Neverova	PhD	2013–2016	Research Lead, Meta FAIR

	Hojjat Salehinejad	PhD (withdrew from program for personal reasons)	2015	Data Scientist, Scotiabank
	Matthew Zeiler	PhD	2009–2012	CEO and Founder, Clarifai
Postdoctoral Fellow	Elahe Ghalebi	Postdoc	2020–2023	Principal Machine Learning Engineer, Autodesk
	Stefan Schneider	Postdoc	2020–2022	Senior Machine Learning Engineer, Rave
	Eric Taylor	Postdoc	2019–2021	GenAI Product Manager, Borealis AI (Royal Bank of Canada)
	Ethan Jackson	Postdoc	2019–2020	Applied ML Scientist, Vector Institute
	Maya Aaram	Postdoc	2018–2020	Industry Liaison Officer, University of Guelph
	Jon Schneider	Postdoc	2014–2018	Senior Developer, Data Science, Bell
	Dhanesh Ramachandram	Postdoc	2015–2017	Applied ML Scientist, Health Lead, Vector Institute
	Fan Li	Postdoc	2015-2016	Deceased
Other	Kevin Kasa	Research Associate	2024–2026	AI Researcher, LawZero
	Nathaniel Lesperance	Research Associate	2024–2025	
	Joakim Bruslund Haurum	Visiting Researcher	2023	Postdoctoral Fellow, Aalborg University
	Andrew Harris	Research Manager	2022–2023	Research Evaluator II, Public Health Agency of Canada
	Mateusz Jurewicz	Visiting Researcher	2022	Senior Machine Learning Developer, Tjek
	Mohammed Adnan	Research Associate	2021–2022	Research Intern, Borealis AI
	Magdalena Sobol	Research Manager	2020–2022	Caregiver
	Chuan-Yung Tsai	Technical AI Scientist	2021–2022	

	Jungtaek Kim	Visiting Researcher	2021–2022	Postdoctoral Associate, University of Pittsburgh
	Sam Motamed	Research Assistant	2021	Research Assistant, Carnegie Mellon University
	Vikram Voleti	Visiting Researcher	2019–2021	PhD student, Mila
	Kristina Kupfer-schmidt	Visiting Researcher	2019–2020	PhD student, University of Guelph
	Brittany Reiche	Lab Manager	2017–2019	Technical Writer, University of Waterloo
	Jacob Høxbroe Jeppesen	Visiting Researcher	2017	PhD Student, Aarhus University
	Fabien Baradel	Visiting Researcher	2017	PhD Student, INSA-Lyon
	Michal Lisicki	Research Assistant	2015–2017	PhD Student, University of Guelph
	He Ma	Technician	2016–2017	Manager, AMA Transaction Monitoring, Scotiabank
	Griffin Lacey	Research Assistant	2016–2017	Sr. Manager, AI Factory Technical Sales, NVIDIA
	Dylan Drover	Research Assistant	2016–2017	Applied Scientist, Amazon Lab 126
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	Tomas Sixta	Visiting Researcher	2014	PhD Student, Czech Technical University in Prague

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