

Marta Kryven

Affiliate Research Scientist, MIT, Brain and Cognitive Sciences
Assistant Professor, Dalhousie University, Computer Science · Psychology & Neuroscience
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ACADEMIC & RESEARCH POSITIONS

- 2024 – **Assistant Professor**, Dalhousie University, Canada
Computer Science, with cross-appointment in Psychology & Neuroscience
Director, Computation and Cognition Lab
Leading a Computation and Cognition research group that studies human and machine intelligence using behavior modeling and experimentation.
- 2018 – 2023 **Postdoctoral Research Scientist**, MIT Brain and Cognitive Sciences, USA
Advisor: Prof. Joshua Tenenbaum
Research: computational models of human perception, decision-making-planning, cognitive maps, and representation learning under uncertainty

EDUCATION

- 2012 – 2017 **Ph.D., Computer Science**, University of Waterloo. Thesis: *Attributed Intelligence*. Research: computational models of social perception, planning, and long-horizon reasoning; psychophysics, eye-tracking, statistical modelling.
- 2017 **Visiting Scholar**, Massachusetts Institute of Technology. Advisor: Prof. Joshua Tenenbaum.
- 2015 **‘Brains, Minds & Machines’ Summer School**, Marine Biological Laboratory, Woods Hole.
- 2015 **Teaching Fundamentals Certificate**, Centre for Teaching Excellence, University of Waterloo.

HONORS & AWARDS

- 2026 ICML Gold Reviewer (top 25% of reviewers)
- 2025 NeurIPS Spotlight Paper (top 3% of papers)
NeurIPS LAW Workshop Spotlight Paper (top 5% of papers)
- 2021 Nature Computational Science Annual Research Highlight
- 2017 Best Poster, Cheriton Symposium, University of Waterloo
- 2015 Distinguished Teaching Assistant, University of Waterloo

GRANTS

- 2026 MITACS Lab2Market (PI), \$10,000
- 2025 NSERC Discovery Grant (PI), \$180,000
NSERC Discovery New Investigator Supplement (PI), \$12,500
- 2019 MIT CBMM Research Award, \$56,000
- 2018 ‘Beyond the Ivory Tower’ Writing for the Public Workshop, Northwestern University, \$2,100
- 2017 Doctoral Thesis Award, University of Waterloo, \$5,000 *(3 awarded annually)*
- 2016 Women in Machine Learning Grant, \$2,000
Cheriton Scholarship, University of Waterloo, \$20,000 *(9 awarded annually)*
- 2015 Distinguished Teaching Assistant Award, University of Waterloo, \$500
- 2014 Graduate Excellence Award in Computer Science, University of Waterloo, \$10,000

PUBLICATIONS

+ indicates first author was a student I supervised or co-supervised.

ARTICLES

- [1] P. Zhao+, E. Sansone, B. Zhao, and **M. Kryven**. “Online library learning in human visual puzzle solving”. In: *Proceedings of the Annual Meeting of the Cognitive Science Society* (2026). (joint senior author).
- [2] S. Dolek+, M. Radovanovic, R. Gonzales+, J. Sommerville, and **M. Kryven**. “Think outside the box: Making up causal hypotheses from unreliable evidence”. In: *Proceedings of the Annual Meeting of the Cognitive Science Society* 47 (2025).
- [3] **M. Kryven**, W. Cole, A. Curtis, and K. Ellis. “Cognitive maps are generative programs”. In: *Proceedings of the Annual Meeting of the Cognitive Science Society* (2025).
- [4] W. T. Piriyaikulij, Y. Liang, H. Tang, A. Weller, **M. Kryven**, and K. Ellis. “PoE-World: Compositional World Modeling with Products of Programmatic Experts”. In: *Advances in Neural Information Processing Systems (NeurIPS)* (2025). **Spotlight**.
- [5] J. Qin+, A. Yang+, Z. Xu+, C. Wyeth+, K. Ellis, and **M. Kryven**. “Planning with Generative Cognitive Maps”. In: *Advances in Neural Information Processing Systems (NeurIPS) LAW Workshop: Bridging Language, Agent, and World Models for Reasoning and Planning* (2025). **Spotlight**.
- [6] X. Zeng+, F. Rudzicz, and **M. Kryven**. “Social Behavior and Strategic Adaptation in Large Language Models”. In: *Advances in Neural Information Processing Systems (LAW Workshop: Bridging Language, Agent, and World Models for Reasoning and Planning)* (2025).
- [7] **M. Kryven**, S. Yu, M. Kleiman-Weiner, T. Ullman, and J. Tenenbaum. “Approximate planning in spatial search”. In: *PLOS Computational Biology* 20.11 (2024), e1012582.
- [8] S. Acquaviva, Y. Pu, **M. Kryven**, T. Sechopoulos, C. Wong, G. Ecanow, M. Nye, M. Tessler, and J. Tenenbaum. “Communicating natural programs to humans and machines”. In: *Advances in Neural Information Processing Systems* 35 (2022), pp. 3731–3743.
- [9] **M. Kryven**, S. Yu, M. Kleiman-Weiner, and J. Tenenbaum. “Planning Ahead in Spatial Search”. In: *Proceedings of the 5th Multidisciplinary Conference on Reinforcement Learning and Decision Making (RLDM)* (2022).
- [10] S. Sharma+, A. Curtis, **M. Kryven**, J. Tenenbaum, and I. Fiete. “Map induction: Compositional spatial submap learning for efficient exploration in novel environments”. In: *International Conference of Learning Representations* (2022).
- [11] T. Shu, A. Magaro, **M. Kryven**, T. Ullman, and J. Tenenbaum. “Social Attribution Guides Similarity Judgment of Abstract Scenes”. In: *Journal of Vision* 22.14 (2022), pp. 3644–3644.
- [12] S. Acquaviva, Y. Pu, **M. Kryven**, T. Sechopoulos, M. Tessler, and J. Tenenbaum. “Communicating Natural Programs to Humans and Machines”. In: *Workshop paper presented at ICRA 2021, Workshop on Social Intelligence in Humans and Robots* (2021).
- [13] C. Bongiorno, Y. Zhou, **M. Kryven**, D. Theurel, A. Rizzo, P. Santi, J. Tenenbaum, and C. Ratti. “Vector-based pedestrian navigation in cities”. In: *Nature Computational Science* 1.10 (2021), pp. 678–685.
- [14] **M. Kryven**, T. D. Ullman, W. Cowan, and J. B. Tenenbaum. “Plans or outcomes: How do we attribute intelligence to others?” In: *Cognitive Science* 45.9 (2021), pp. 13–41.
- [15] **M. Kryven**, S. You, M. Kleiman-Weiner, and J. Tenenbaum. “Modelling Human Planning in Mazes”. In: *Workshop paper presented at ICRA 2021, Workshop on Social Intelligence in Humans and Robots* (2021).

- [16] Y. Quian+, **M. Kryven**, T. Gao, H. Joo, and J. Tenenbaum. “Modeling Human Intention Inference in Continuous 3D Domains by Inverse Planning and Body Kinematics”. In: *Workshop paper presented at ICRA 2021, Workshop on Social Intelligence in Humans and Robots* (2021).
- [17] Y. Pu, K. Ellis, **M. Kryven**, J. Tenenbaum, and A. Solar-Lezama. “Program synthesis with pragmatic communication”. In: *Advances in Neural Information Processing Systems* 33 (2020), pp. 13249–13259.
- [18] T. Shu, **M. Kryven**, T. D. Ullman, and J. Tenenbaum. “Adventures in Flatland: Perceiving Social Interactions Under Physical Dynamics.” In: *Proceedings of the Annual Meeting of the Cognitive Science Society* (2020).
- [19] L. Tian, K. Ellis, **M. Kryven**, and J. Tenenbaum. “Learning abstract structure for drawing by efficient motor program induction”. In: *Advances in Neural Information Processing Systems* 33 (2020). **Oral presentation**, pp. 2686–2697.
- [20] B. Cowan, E. Fourquet, and **M. Kryven**. “Teaching the societal consequences of computer science: new ideas for increasing student involvement”. In: *Proceedings of the 23rd Annual ACM Conference on Innovation and Technology in Computer Science Education* (2018), pp. 242–247.
- [21] **M. Kryven**. “Attributed Intelligence”. In: *Thesis defended at University of Waterloo* (2018).
- [22] **M. Kryven**, T. D. Ullman, W. Cowan, and J. Tenenbaum. “Thinking and Guessing: Bayesian and Empirical Models of How Humans Search.” In: *Proceedings of the Annual Meeting of the Cognitive Science Society* (2017).
- [23] **M. Kryven**, T. Ullman, W. Cowan, and J. B. Tenenbaum. “Outcome or strategy? a bayesian model of intelligence attribution”. In: *Proceedings of the Annual Meeting of the Cognitive Science Society* 38 (2016).
- [24] **M. Kryven** and W. Cowan. “What does water look like?” In: *Proceedings of the Workshop on Computational Aesthetics* (2014), pp. 53–56.
- [25] **M. Kryven** and E. Fourquet. “Generating knitting patterns from a sketch: A CSP approach”. In: *Proceedings of the Workshop on Computational Aesthetics* (2013), pp. 53–61.

PATENTS

- [26] **M. Kryven**. “Systems and Methods for Controlling Autonomous Robots using Machine Learning Based Planning”. 10007674-1USPR. Feb. 2025.

UNDER REVIEW

- [27] M. Geva-Sagiv, S. Jun, **M. Kryven**, J. Tenenbaum, E. D. Boorman, R. O’Reilly, J. J. Lin, I. Saez, and C. Ranganath. “Fronto-Hippocampal Synchronization in Rapid Spatial Learning in Humans”. 2026.
- [28] Y. Guo+, D. Hunag, X. Hu, **M. Kryven**, and Y. Pu. “Language-to-Function Synthesis via Embodied Affordance Validation”. (joint senior author). 2026.
- [29] L. Hernandez Cano+, I. Zareski+, L. El Amouri+, P. Zhao, M. Mascini+, E. Sansone, Y. Pu, B. Zhao, and **M. Kryven**. “Prospective Compression in Human Abstraction Learning”. Under review at NeurIPS 2026. 2026. arXiv: [2605.09985](https://arxiv.org/abs/2605.09985) [cs.AI]. URL: <https://arxiv.org/abs/2605.09985>.
- [30] J. Qin+, W. T. Piriyaakulkij, Z. Gao+, M. Radovanovic, J. Sommerville, K. Ellis, and **M. Kryven**. “Hypothesis Generation and Inductive Inference in Children and Language Models”. Under review at NeurIPS 2026. 2026. URL: <https://arxiv.org/abs/2605.09985>.

REFEREED POSTERS & ABSTRACTS

- [31] J. Qin+, W. T. Piriyaakulkij, Z. Gao, and **M. Kryven**. “Learning Mental Models Under Unreliable Evidence”. In: *Proceedings of the Conference on Cognitive Computational Neuroscience*. 2026.

- [32] P. Zhao+, I. Zareski+, L. ElAmouri+, E. Sansone, B. Zhao, and **M. Kryven**. “Adaptive Online Learning of Structured Abstractions in Visual Problem-Solving”. In: *Proceedings of the Conference on Cognitive Computational Neuroscience*. 2026.
- [33] J. Chen+ and **M. Kryven**. “Do Large Language Models Encode Symmetry as a Perceptual Prior?” In: *Poster presented at the The Brain and Integrative Vision Conference, Centre for Vision Research at York University*. 2025.
- [34] R. Gonzales+ and **M. Kryven**. “Music as Programs: Discovery of Musical Structure via Program Induction”. In: *ISMIR (Workshop paper)*. 2025.
- [35] **M. Kryven**, M. Radovanovic, Gonzales, and J. Sommerville. “Making up causal hypotheses from unreliable evidence”. In: *Poster presented at the Annual Meeting of the Society for Philosophy and Psychology*. 2025.
- [36] **M. Kryven**, C. Wyeth+, A. Curtis, and K. Ellis. “Cognitive maps are generative programs”. In: *Poster presented at the Annual Meeting of the Society for Philosophy and Psychology*. 2025.
- [37] N. Vlavianos+, T. Nagakura, and **M. Kryven**. “A Novel Method for Measuring Psychophysical Immersion in Sacred Architectural Space in VR and in Reality”. In: *Poster presented at the Annual Meeting of the Society for Philosophy and Psychology*. 2023.
- [38] S. Sharma+, A. Curtis, **M. Kryven**, I. Fiete, and J. Tenenbaum. “Efficient Exploration of Spatial Environments through Map Induction Using Adaptable Compositional Map Representations”. In: *Proceedings of the 44th Annual Conference of the Cognitive Science Society*. 2022.
- [39] S. Sharma+, A. Curtis, **M. Kryven**, I. Fiete, and J. Tenenbaum. “Map Induction: Compositional Spatial Submap Learning for Efficient Exploration in Novel Environments”. In: *Poster presented at the Computational and Systems Neuroscience (COSYNE) Annual Meeting*. 2022.
- [40] N. Vlavianos+, T. Nagakura, and **M. Kryven**. “Human Information Seeking in Architectural Spaces Simulated in Virtual Reality”. In: *Proceedings of the Annual Meeting of the Cognitive Science Society*. Vol. 44. 44. 2022.
- [41] G. Ecanow, C. Wong, S. Acquaviva, Y. Pu, **M. Kryven**, and J. Tenenbaum. “Core knowledge objects in reasoning and language use for highly abstract inductive tasks”. In: *Proceedings of the Annual Meeting of the Cognitive Science Society*. Vol. 43. 43. 2021.
- [42] S. Sharma+, **M. Kryven**, I. Fiete, and J. Tenenbaum. “Learning Spatial Environments by Adaptable Compositional Map Representations”. In: *Proceedings of the Annual Conference of the Cognitive Science Society*. 2021.
- [43] Z. Yang+, **M. Kryven**, H. Shrobe, and J. Tenenbaum. “Modeling human planning in a life-like search-and-rescue mission”. In: *Proceedings of the Annual Meeting of the Cognitive Science Society*. Vol. 43. 43. 2021.
- [44] **M. Kryven**, S. Croom+, B. J. Scholl, and J. Tenenbaum. “Look out, it’s going to fall!: Does physical instability capture attention and lead to distraction?” In: *Poster presented at the Annual Meeting of the Society for Philosophy and Psychology*. 2019, p. 3500.
- [45] **M. Kryven**, L. Niemi, L. Paul, and J. Tenenbaum. “Choosing the unimaginable: Social psychological factors in seeking transformative experiences”. In: *Proceedings of the Annual Meeting of the Cognitive Science Society*. Vol. 41. 2019.
- [46] **M. Kryven**, B. Scholl, and J. Tenenbaum. “Does Intuitive Inference of Physical Stability Interrupt Attention?” In: *Proceedings of the 41st Annual Conference of the Cognitive Science Society*. 2019.
- [47] **M. Kryven** and W. Cowan. “Semi-Automated Classification of Free-form Participant Comments”. In: *Poster presented at the Women in Machine Learning (WiML) Workshop, Neural Information Processing Systems*. 2016.

- [48] **M. Kryven**, W. Cowan, T. Ullman, and J. Tenenbaum. “Attending to the Future”. In: *Poster presented at the Center for Visual Science Symposium, University of Rochester*. 2016.
- [49] **M. Kryven**, T. Ullman, W. Cowan, and J. Tenenbaum. “People Explore Under Uncertainty by Looking Ahead”. In: *Poster presented at the Computational Approaches to Cognition Symposium, Psychonomics 2016, Boston, USA*. 2016.
- [50] **M. Kryven**, T. Ullman, W. Cowan, and J. Tenenbaum. “Two Types of Exploratory Behaviour”. In: *Poster presented at the Applied Vision Association Christmas Meeting, Queen Mary University of London*. 2016.
- [51] **M. Kryven** and W. Cowan. “Why Magic Works? Attention to Moving Stimuli”. In: *Poster presented at the International Conference on Perceptual Organization, Centre for Vision Research at York University*. 2015.
- [52] **M. Kryven** and W. Cowan. “Modelling Perceptually Efficient Aquatic Environments”. In: *Proceedings of the ACM Symposium on Applied Perception*. 2013.

Invited Talks

- 2026 Approximate Bayesian inference for problem-solving
Universal Algorithmic Intelligence Group, University of Waterloo
- 2025 Where Human Intelligence Meets Artificial Intelligence
Cohere – Industry Invited Presentation
- 2025 Reverse-engineering real-world priors
Department of Psychology & Neuroscience, Dalhousie University
- 2024 Modeling cognition in the real world
Department of Psychology, University of Toronto
- 2024 Modeling cognition in the real world
Department of Psychology, University of Waterloo
- 2024 Cognitively-inspired AI
Department of Computer Science, Dalhousie University
- 2024 Cognitively-inspired AI
Department of Computer Science, University of Waterloo
- 2024 Cognitively-inspired AI
Computer Science Institute, Leiden University
- 2021 Modeling human planning under uncertainty
Department of Neuroscience, Harvard University
- 2021 Modeling human planning under uncertainty
Department of Brain and Cognitive Sciences, MIT
- 2020 Probabilistic Programming
CBMM Summer School, Marine Biological Laboratory, Woods Hole
- 2019 Plan-generation and social attribution
Department of Psychology, Boston College
- 2019 Plan-generation and social attribution
Department of Neuroscience, Harvard University
- 2019 Research Methods
CBMM Summer School, Marine Biological Laboratory, Woods Hole
- 2018 Planning under uncertainty
Department of Neuroscience, Yale University
- 2018 Planning under uncertainty
CSAIL, MIT
- 2018 Perception as Inference

- MIT Museum (invited talk)*
- 2018 Perception as inference – what visual illusions tell us about the brain
Suffolk University / New England School of Art and Design (guest lecture)
- 2017 Value-based decision-making under uncertainty
Department of Brain and Cognitive Sciences, MIT
- 2016 What do people mean by intelligence?
Future of Humanity Institute, Oxford
- 2016 Attributing intelligence to others
Neuroscience Student Research Symposium, York University
- 2016 Vision as inference in the real world
School of Computer Science, University of Waterloo
- 2013 Psychophysics of image perception
Computational Aesthetics, Vancouver (conference talk)
- 2012 Generating knitting patterns from a sketch
Symposium on Computational Aesthetics, ACM (conference talk)

SELECTED ADVISING

- 2026 – Farzin Ahmadi, Undergraduate (Dalhousie University; poster presented at CCN2026, New York)
- 2025 – Zhuangfei Gao, Undergraduate (Imperial College London; paper submitted to NeurIPS 2026)
- 2025 – Jeffrey Qin, Undergraduate (University of Waterloo; Spotlight Paper Award at NeurIPS LAW Workshop 2025)
- 2025 – Max Mascini, MSc (Dalhousie University; paper submitted to NeurIPS 2026))
- 2025 – Luisa El Amori, Undergraduate (Dalhousie University; poster presented at CCN2026, New York)
- 2025 – Ivan Zareski, Undergraduate (Dalhousie University; poster presented at CCN2026, New York)
- 2025 Robie Gonzales, PhD (Dalhousie University; now at a startup)
- 2024 – Cole Wyeth, PhD (University of Waterloo; Spotlight Paper Award at NeurIPS LAW Workshop 2025)
- 2025 – Ziheng Xu, MSc (Cornell University; Spotlight Paper Award at NeurIPS LAW Workshop 2025)
- 2026 Janna Kubursi, Undergraduate (Dalhousie University)
- 2026 Aryaman Pandey, Undergraduate (Dalhousie University)
- 2025 Jinkun Chen, PhD (Dalhousie University; poster presented at The Brain and Integrative Vision Conference, Centre for Vision Research at York University)
- 2025 Akshit Sinh, Undergraduate (IIT; Spotlight Paper Award at NeurIPS LAW Workshop 2025)
- 2025 Albert Yang, Undergraduate (University of Waterloo; Spotlight Paper Award at NeurIPS LAW Workshop 2025)
- 2025 Simal Dolek, MSc (Dalhousie University; poster presented at Cognitive Science Society 2025)
- 2025 Xijie Zeng, PhD (Dalhousie University; paper in proceedings of NeurIPS LAW Workshop 2025)
- 2025 Ryan McArthur, Undergraduate (Dalhousie University; paper in proceedings of NeurIPS LAW Workshop 2025)
- 2018 – 2022 Yingdong Qian, MSc (MIT; now Research Scientist at Google)
- 2019 – 2022 Suhyoun Yu, PhD (MIT; now at Amazon)
- 2019 – 2022 Zhutian Yang, MSc (MIT; now PhD student at MIT)
- 2020 – 2022 Nik Vlavianos, PhD (MIT; now Startup CEO)
- 2019 – 2022 Sugghanda Sharma, PhD (MIT; now Research Scientist at Nvidia)
- 2019 Ruisi Zhong, Undergraduate (Vanderbilt University; now SWE at Google)
- 2019 Damarcus Peterson, Undergraduate (MIT)
- 2019 Sarah Wu, Undergraduate (MIT)
- 2019 Adeline Hillier, Undergraduate (MIT; now SWE at JHUAPL)
- 2018 Ronald Alvarez, Undergraduate (Mercer University; transferred to MIT undergraduate program in Brain and Cognitive Science)

Teaching

- 2024 – Present* **Dalhousie University: Computational Cognitive Science**
Instructor (graduate course, ~15 students per cohort)
Designed and taught a graduate course covering computational models of human cognition, including probabilistic graphical models, approximate Bayesian inference, reinforcement learning, and program induction. Supervised student research projects from proposal through final presentation.
- 2024 – Present* **Dalhousie University: Machine Learning**
Instructor (3rd-year undergraduate, ~60 students)
Taught core machine learning methods including supervised and unsupervised learning, deep learning, and probabilistic models. Designed weekly assignments, midterms and a final exam.
- 2024 – Present* **Dalhousie University: Data Science**
Instructor (3rd-year undergraduate, ~60 students)
Covered data processing, exploratory analysis, statistical inference, and machine learning pipelines using real-world datasets.
- 2019 – 2022* **MIT: Computational Cognitive Science**
Teaching Assistant (~20 students)
Led recitations, held weekly office hours, assisted with grading, and advised students developing research-based class projects. The course covers Bayesian models of perception and cognition, probabilistic programming, and computational approaches to learning and language.
- 2019 – 2020* **Marine Biological Laboratory: Brains, Minds and Machines Summer School**
Teaching Assistant and Project Advisor (~40 students)
Advised students on research projects across Computational Neuroscience and Cognitive Science pillars. Supported tutorial sessions on probabilistic programming, approximate inference, and running online behavioral experiments.
- 2012 – 2017* **University of Waterloo**
Teaching Assistant
Courses: Societal Implications of Computing (2 terms; co-authored a peer-reviewed paper on curriculum redesign), Introduction to Artificial Intelligence (4 terms), Real-Time Programming (2 terms), Introduction to Computer Graphics (3 terms).
Recognized with the **Distinguished Teaching Assistant Award** (2015).

CONFERENCE & WORKSHOP ORGANIZATION

- 2027* **Conference Co-Chair, 49th Annual Meeting of the Cognitive Science Society (CogSci 2027).** Scientific leadership of the Society's flagship international conference, including conference theme, scientific program, keynote selection, and invited programming.
- 2027* **Proceedings Committee, Cognitive Computational Neuroscience (CCN 2027).** Conference-level oversight of peer review and proceedings, including Area Chair, Senior Area Chair, and reviewer selection, OpenReview administration, and review policy and process.
- 2026* **Founder and Organizer – [Computation and Cognition Symposium](#), Halifax;**
Scientific leadership of the Symposium's program, keynote selection and programming.
Secured \$15,000 in institutional and industry sponsorship.
- 2025* **Founder and Organizer – [Computation and Cognition Symposium](#), Halifax**
Scientific leadership of the Symposium's program, keynote selection and programming.
Organizing Committee – [Atlantic AI Symposium](#)

REVIEWING

- AI / Machine Learning* Neural Information Processing Systems (NeurIPS), International Conference on Machine Learning (ICML), International Conference on Learning Representations (ICLR), Association for the Advancement of Artificial Intelligence (AAAI), International Conference on Robotics and Automation (ICRA), The Society for AI and Statistics

	(AISTATS), Women In Machine Learning Workshop (WiML), Nature Computational Science, Nature Scientific Reports
<i>Cognitive Science</i>	Cognitive Science Society Annual Meeting (CogSci), Computational Cognitive Neuroscience (CCN), Proceedings of the National Academy of Sciences(PNAS), Nature Human Behavior (NHB), Cognition, Cognitive Science, PLOS Computational Biology, Open Mind
<i>Neuroscience</i>	Computational and Systems Neuroscience (COSYNE), Cell, Neural Computation, Cognitive Neurodynamics

OUTREACH & LEADERSHIP

<i>2026</i>	Invited Speaker, Mind Matters: Cognitive Science Talks , Participated in a structured student interview on cognitive science research, academic career paths, and the study of human and machine intelligence, organized by students at Peddie School, USA
<i>2018 – 2020</i>	MIT Museum , Boston, USA – Lecturer and Exhibit Designer. Designed and led interactive demonstrations on decision-making and perception for museum visitors.
<i>2018 – 2019</i>	MIT Gamelan GalakTika ensemble , Boston, USA – Music performer.
<i>2015</i>	Cheriton CS Graduate Symposium, University of Waterloo – Poster Judge
<i>2014</i>	Frontier College – Mentor, Canada-wide literacy outreach organisation CEMC Workshop in Computer Science for Young Women , University of Waterloo – Mentor and facilitator
<i>2014 – 2017</i>	University of Waterloo Student Bike Centre – Volunteer bicycle mechanic

INTERNAL SERVICE

<i>2025 – 2026</i>	Research Ethics Board (IRB) . Board member.
<i>2026</i>	SURGE NeuroHack Hackathon , Mentor and project judge x 2
<i>2024 – 2026</i>	Graduate student committee service . CS x 5; Psychology and Neuroscience x 2
<i>2025 – 2026</i>	Atlantic AI Institute committee
<i>2024 – 2025</i>	Undergraduate Scholarship Committee

INDUSTRY & NONPROFIT

<i>2026 -</i>	Scientific Expert, Creative Destruction Lab (CDL) Provide scientific and technical assessment during founder-selection interviews for early-stage ventures involving AI, behavioural science, and human-AI systems.
<i>2026 -</i>	Affiliate Expert, Behavioral Insights Team (BIT)
<i>2026 -</i>	Affiliate Expert, Analysis Group
<i>2026</i>	Advising a student-led project under MITACS Lab2Market program. AI as service application for personal productivity.
<i>2025 –</i>	Founder and Chief Scientist, Northlight Intelligence, Canada
<i>2025</i>	Scientific Advisor to Simons Foundation
<i>2025</i>	Scientific Advisor to Site 20/20, via National Research Council (NRC) IRAP, Canada. Advised on data systems design, integration and analytics pipelines.
<i>2008 – 2011</i>	Senior Software Engineer, Newbay Software, Dublin, Ireland.

Personal Information: Canadian and EU citizen.

August 2026