Florian Shkurti

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CURRENT POSITIONS

Assistant Professor (tenure-track)   2019-
>   Department of Computer Science, University of Toronto
>   Mathematical & Computational Sciences, University of Toronto Mississauga
>   University of Toronto Institute for Aerospace Studies (Cross-Appointment)
>   Director, Robot Vision & Learning (RVL) Lab
>   https://rvl.cs.toronto.edu

Scientific Advisory Board   2018-
>   Propagator Ventures

Faculty Member
>   University of Toronto Robotics Institute   2019-
>   Acceleration Consortium (Co-director of AI & Automation Lab)   2023-

Faculty Affiliate   2019-
>   Vector Institute

EDUCATION

Ph.D.	Computer Science & Robotics, McGill University	2012-2019
	Thesis: *Algorithms and Systems for Robot Videography with Human Specifications*	
	Supervisor: Gregory Dudek, GPA 4.0/4.0	
	Committee: Joelle Pineau, Doina Precup, Michael Langer	
M.Sc.	Computer Science & Robotics, McGill University	2009-2011
	Thesis: *3D Simultaneous Localization and Mapping (SLAM) using Visual and Inertial Measurements*, GPA 4.0/4.0	
	Supervisors: Gregory Dudek & Ioannis Rekleitis	
H. B.Sc.	Computer Science & Mathematics, University of Toronto	2005-2009

AWARDS

Schmidt Sciences AI2050 Fellowship, International	2024
TRI Young Faculty Researcher Award, International	2024
Best Paper Award, RSS, Safe Autonomy Workshop, International	2023
Best Paper Award, CoRL, Learning and Long-Horizon Planning Workshop, International	2022
Amazon Research Award, Robotics, International	2021
Connaught New Researcher Award, Institutional	2021
Outstanding Reviewer, CVPR, International	2021
Best Paper Award, RSS, Self-Supervised Robot Learning Workshop, International	2020
Alexander Graham Bell CGS Doctoral (CGS-D) Award, NSERC, National	2014-2016
Graduate Student Excellence Award, McGill, Institutional	2013-2016
AAAI Robotics Fellowship, International	2015

FQRNT Doctoral Award, McGill, Provincial	2013-2014
Lorne Trottier Science Accelerator Fellowship, McGill, Institutional	2014
GREAT Award, McGill, Institutional	2015, 2017
Walter Sumner Foundation Award, McGill, National	2011-2013
Provost's Graduate Fellowship, McGill, Institutional	2009
Dean's Honor List, UofT, Institutional	2006-2009
Woodsworth College Student Association Award, UofT, Institutional	2008
Trenwith Award in Computer Science, UofT, Institutional	2007
Coxeter Scholarship in Mathematics, UofT, Institutional	2007
Exceptional High School Student Award, Eurobank, Athens, Greece, National	2005

PROFESSIONAL EXPERIENCE

2010-18   *Robotics Researcher, Mobile Robotics Lab, McGill University.*
Designed, implemented, and analyzed algorithms for control and motion planning under uncertainty. Extensive experience with robust estimation algorithms and probabilistic modeling. Extensive experience with vision-based 3D reconstruction, coupled with inertial measurements. Designed and deployed robotics systems in challenging outdoor environments (underwater, air, deserts). Experience with machine learning techniques for representation learning, reinforcement learning, variational inference, sampling, inverse reinforcement learning etc. Supervised by Prof. Gregory Dudek.

2016-17   *Robotics Consultant, Independent Robotics Inc. Montreal, QC.*
Provided integration and debugging services for software and hardware systems.

2015-16   *Co-Inventor of a hardware and software 3D mapping system. Montreal, QC.*
Integrated machine-vision cameras with an IMU and a mobile GPU. Created a stereo vision and IMU SLAM system. Won $20,000 in startup funding.

2015   *Software Engineering Consultant, Lemay-Yates Associates Inc, Montreal, QC.*
Supervised by Robert Yates and Johanne Lemay. Provided systems review services for simulators of electromagnetic spectrum auctions.

2009   *Undergraduate Software Engineer, University of Toronto, ON.*
NSERC USRA, advised by Prof. Gregory Wilson. Implemented parts of Basie, a project management portal for classroom use that includes wiki pages, mailing lists, code reviews, and source code browsers.

2008   *Software Engineering Intern, Google Inc. Mountain View, CA.*
Ads Quality Team, supervised by Simon Favreau-Lessard and Michelle Levesque. Developed software infrastructure for statistical experiments.

2007   *Undergraduate Software Engineer, University of Toronto, ON.*
Google Summer of Code award. Advised by Prof. Karen Reid and Jason Montojo (IBM).

2006   *Undergraduate Research Assistant. A.U.G. Signals, Toronto, ON.*
NSERC Industrial USRA, supervised by Dr. George Lampropoulos. Designed signal-processing filters for the classification of spectral signatures of different types of terrains and plants.

RESEARCH STATEMENT

My research centers around robotics and spans machine learning, perception, planning and control. I develop methods that enable robots to perceive, reason, and act effectively and safely, particularly in dynamic environments and alongside humans. Application areas include field robotics for environmental monitoring, visual navigation for autonomous vehicles, and mobile manipulation in chemistry labs. More specifically, I focus on the following areas:

▸ **Machine learning for planning, perception, and control:** I want to enable robots to interact effectively with humans and the physical world. Robots need to reason logically about the world around them, learn from their own experience, from other robots' experience, from vast streams of simulated data, and from very limited human supervision and intervention.

▶ **Safe robot learning, exploration, and evaluation:** I aim to provide safety guarantees about the operation of learning based robotic systems. This includes making progress on safe exploration during the learning process, such as bounding the number of mistakes a robot will commit; safety assessments before deployment in the form of photorealistic adversarial simulation scenarios that generate rare events; and safety monitoring during deployment through test-time uncertainty quantification.

▶ **Autonomous robots for environmental monitoring (field robotics):** I want to enable fully autonomous robots in the field to collect environmental data and samples like scientists would. This includes autonomous visual search for sites and features of interest, autonomous exploration for unseen features, and autonomous selection of what to measure, where (optimal experiment design), and how to reliably navigate to sites of interest.

▶ **Autonomous robots for scientific discovery:** I want to enable general-purpose manipulation robots to execute experiments in chemistry and biology labs to collect experimental data for scientists. I am also interested in optimal experiment design and its interplay with foundation models for science.

PUBLICATIONS

Career Publication Count	74
Scholarly Books (authored)	0
Scholarly Books (edited)	0
Scholarly Book Chapters	1
Papers in Refereed Journals	6
Papers in Refereed Conferences	45
Papers in Refereed Workshops	6
Preprints Under Review	15
Major Invited Conferences	1
Other Conference Abstracts/ Posters / Contributions	0
Other Publications	0
Citations (Google Scholar)	2527
H-index (Google Scholar)	27

Preprints (under review)

NeurIPS '25	Diffusion Off-Policy Evaluation. Hossein Goli, Michael Gimelfarb, Nathan De Lara, Haruki Nishimura, Masha Itkina, Florian Shkurti. Neural Information Processing Systems. 11 pages.	[C.58]
NeurIPS '25	Informing Acquisition Functions in Bayesian Optimization via Foundation Models for Molecular Discovery. Qi Chen, Florian Shkurti. Neural Information Processing Systems. 8 pages.	[C.57]
NeurIPS '25	How Creative Are Multi-Task Diffusion Policies Trained by Imitation? Quentin Clark, Florian Shkurti. Neural Information Processing Systems. 7 pages.	[C.56]
NeurIPS '25	Sobolev Training of Offline-to-Online Reinforcement Learning. Nathan De-Lara, Florian Shkurti. Neural Information Processing Systems. 9 pages.	[C.55]
CoRL '25	Scalable Policy Evaluation with Video World Models. Wei-Cheng Tseng, Jinwei Gu, Qinsheng Zhang, Hanzi Mao, Ming-Yu Liu, Florian Shkurti, Lin Yen-Chen. Conference on Robot Learning. 8 pages.	[C.54]

CoRL '25   Handle With Care: Calibrating Vision-Language Models for Safe and Efficient   [C.53]
             Object Manipulation. Jasper Gerigk, Paula Wulkop, Pranjal Bajaria, Roland
             Siegwart, Florian Shkurti, Haruki Nishimura, Masha Itkina, Igor Gilitschenski.
             Conference on Robot Learning. 7 pages.

CoRL '25   Failure Detection and Prediction with Vision-Language-Action Policies. Qiao   [C.52]
             Gu, Yuanliang Ju, Owen Sun, Igor Gilitschenski, Masha Itkina, Haruki
             Nishimura, Florian Shkurti. Conference on Robot Learning. 8 pages.

Nature   MATTERIX: Towards a Digital Twin for Robotics-Assisted Chemistry Lab Au-   [J.8]
Comp '25   tomation. Kourosh Darvish, Arjun Sohal, Abhijoy Mandal, Hatem Fakhruldeen,
             Nikola Radulov, Zhengxue Zhou, Joshua Choi, Skyler Han, Brayden Zhang,
             Jeeyeoun Chae, Satheeshkumar Veeramani, Alex Wright, Yijie Wang, Hos-
             sein Darvish, Yuchi (Allan) Zhao, Gary Tom, Han Hao, Miroslav Bogdanovic,
             Gabriella Pizzuto, Andrew Cooper, Alan Aspuru Guzik, Florian Shkurti, Ani-
             mesh Garg. Nature Computational Science. 25 pages.

Matter '25   RoboCulture: A General-Purpose Robotic Platform for Automated Biological   [J.7]
             Experimentation. Kevin Angers, Naruki Yoshikawa, Kourosh Darvish, Sargol
             Okhovatian, Dawn Bannerman, Ilya Yakavets, Florian Shkurti, Alan Aspuru-
             Guzik, Milica Radisic. Journal of Matter. 14 pages.

RA-L '25   SICNav-Diffusion: Safe and Interactive Crowd Navigation with Diffusion   [C.51]
             Trajectory Predictions. Sepehr Samavi, Anthony Lem, Fumiaki Sato, Sirui
             Chen, Qiao Gu, Keijiro Yano, Angela P. Schoellig, Florian Shkurti. Robotics and
             Automation Letters. 8 pages.

IROS '25   Quasimetric Heuristic Learning for Motion Planning in Robotics. Fabian   [C.50]
             Damken, Sanjiban Choudhury, Jan Peters, Florian Shkurti. 8 pages. IEEE
             International Conference on Intelligent Robots and Systems.

CoRL '25   AnyPlace: Learning Generalized Object Placement for Robot Manipulation.   [C.49]
             Yuchi Zhao, Miroslav Bogdanovic, Chengyuan Luo, Steven Tohme, Kourosh
             Darvish, Alán Aspuru-Guzik, Florian Shkurti, Animesh Garg. Conference on
             Robot Learning. 8 pages.

IROS '25   On the Importance of Uncertainty Calibration in Perception-Based Motion   [C.48]
             Planning. Andrei Ivanovic, Kelly Zhu, Masha Itkina, Rowan McAllister, Igor
             Gilitschenski, Florian Shkurti. 8 pages. IEEE International Conference on
             Robotics and Intelligent Systems.

arXiv   Errors are Useful Prompts: Instruction Guided Task Programming with   [C.47]
             Verifier-Assisted Iterative Prompting. Marta Skreta, Naruki Yoshikawa, Sebas-
             tian Arellano-Rubach, Zhi Ji, Lasse Bjørn Kristensen, Kourosh Darvish, Alán
             Aspuru-Guzik, Florian Shkurti, Animesh Garg. 8 pages.

arXiv   Chemistry Lab Automation via Constrained Task and Motion Planning. Naruki   [C.46]
             Yoshikawa, Andrew Zou Li, Kourosh Darvish, Yuchi Zhao, Haoping Xu, Alán
             Aspuru-Guzik, Animesh Garg, Florian Shkurti. 6 pages.

Peer-Reviewed Published Journal Papers

RA-L '25	STAMP: Differentiable Task and Motion Planning via Stein Variational Gradient Descent. Yewon Lee, Andrew Z. Li, Philip Huang, Eric Heiden, Krishna Murthy Jatavallabhula, Fabian Damken, Kevin Smith, Derek Nowrouzezahrai, Fabio Ramos, Florian Shkurti. Robotics and Automation Letters. 8 pages.	[J.6]
Matter '24	ORGANA: A Robotic Assistant for Automated Chemistry Experimentation and Characterization. Kourosh Darvish, Marta Skreta, Yuchi Zhao, Naruki Yoshikawa, Sagnik Som, Miroslav Bogdanovic, Yang Cao, Han Hao, Haoping Xu, Alán Aspuru-Guzik, Animesh Garg, Florian Shkurti. Journal of Matter. 49 pages.	[J.5]
T-RO '24	SICNav: Safe and Interactive Crowd Navigation using Model Predictive Control and Bilevel Optimization. Sepehr Samavi, James Han, Angela Schoellig, Florian Shkurti. Transactions of Robotics. 13 pages.	[J.4]
FR '23	Field Testing of a Stochastic Planner for ASV Navigation System using Satellite Images. Yizhou Huang, Tony Wang, Florian Shkurti, Timothy Barfoot. Field Robotics. 31 pages.	[J.3]
AuRo '23	Large Language Models for Chemistry Robotics. Naruki Yoshikawa, Marta Skreta, Kourosh Darvish, Sebastian Arellano-Rubach, Zhi Ji, Lasse Bjørn Kristensen, Andrew Zou Li, Yuchi Zhao, Haoping Xu, Artur Kuramshin, Alán Aspuru-Guzik, Florian Shkurti, Animesh Garg. Autonomous Robots. 38 pages.	[J.2]
RA-L '23	Learning to Search in Task and Motion Planning with Streams. Mohamed Khodeir*, Ben Agro*, Florian Shkurti. Robotics and Automation Letters. 8 pages.	[J.1]

Peer-Reviewed Published Conference Papers

ICLR '25	On the Generalization of VAE and Diffusion Models: A Unified Information-theoretic Analysis. Qi Chen, Jierui Zhou, Florian Shkurti. International Conference on Learning Representations. 32 pages.	[C.45]
ICRA '25	Model-Predictive Control for Manipulation of Granular Media via Learned Gaussian Splatting Dynamics. Wei-Cheng Tseng, Krishna Murthy Javatabhulla, Ellina Zhang, Florian Shkurti. IEEE International Conference on Robotics and Automation. 7 pages.	[C.44]
ICRA '25	Automated Planning Domain Inference for Robot Task and Motion Planning. Jinbang Huang, Rozalyn Marco, Allen Tao, Miroslav Bogdanovic, Jonathan Kelly, Florian Shkurti. 8 pages. IEEE International Conference on Robotics and Automation.	[C.43]
ICRA '24	ConceptGraphs: Open-vocabulary 3d scene graphs for perception and planning. Qiao Gu, Alihusein Kuwajerwala, Sacha Morin, Krishna Murthy Jatavallabhula, Bipasha Sen, Aditya Agarwal, Corban Rivera, William Paul, Kirsty Ellis, Rama Chellappa, Chuang Gan, Celso Miguel de Melo, Joshua B Tenenbaum, Antonio Torralba, Florian Shkurti, Liam Paull. IEEE International Conference on Robotics and Automation. 11 pages.	[C.42]

CoRL '23   Generating Transferable Adversarial Simulation Scenarios for Self-Driving via Neural Rendering. Yasasa Abeysirigoonawardena*, Kevin Xie, Sally Chen, Salar Hosseini, Ruiqi Wang, Ruiting Chen, Florian Shkurti. **Best paper award and oral presentation** for the workshop version of this paper at the RSS'23 workshop on Safe Autonomy (out of 11 accepted papers). Conference on Robot Learning. 21 pages.   [C.41]

RSS '23   ConceptFusion: Open-set Multimodal 3D Mapping. Krishna Murthy Jatavallabhula, Alihusein Kuwajerwala, Qiao Gu, Mohd Omama, Tao Chen, Shuang Li, Ganesh Iyer, Soroush Saryazdi, Nikhil Keetha, Ayush Tewari, Joshua B. Tenenbaum, Celso Miguel de Melo, Madhava Krishna, Liam Paull, Florian Shkurti, Antonio Torralba. Robotics: Science and Systems. 16 pages.   [C.40]

IROS '23   Does Unpredictability Influence Driving Behavior?. Sepehr Samavi, Florian Shkurti, Angela Schoellig. IEEE International Conference on Intelligent Robots and Systems. 6 pages.   [C.39]

CVPR '23   Preserving Linear Separability in Continual Learning by Backward Feature Projection. Qiao Gu, Dongsub Shim, Florian Shkurti. Conference on Computer Vision and Pattern Recognition. 14 pages.   [C.38]

CVPR '23   Sparsifiner: Learning Sparse Instance-Dependent Attention for Efficient Vision Transformers. Cong Wei*, Brendan Duke*, Ruowei Jiang, Graham Taylor, Florian Shkurti. Conference on Computer Vision and Pattern Recognition. 10 pages.   [C.37]

ICRA '23   Policy-Guided Lazy Search with Feedback for Task and Motion Planning. Mohamed Khodeir*, Atharv Sonwane*, Florian Shkurti. 6 pages. **Best paper award and oral presentation** at CoRL'22 workshop on Learning, Perception, and Abstraction for Long-Horizon Planning (out of 19 accepted papers). IEEE International Conference on Robotics and Automation.   [C.36]

ICRA '23   MVTrans: Multi-View Perception of Transparent Objects. Yi Ru Wang, Yuchi Zhao, Haoping Xu, Saggi Eppel, Alan Aspuru-Guzik, Florian Shkurti, Animesh Garg. 6 pages. IEEE International Conference on Robotics and Automation.   [C.35]

ICRA '23   Stochastic Planning for ASV Navigation Using Satellite Images. Yizhou Huang, Hamza Dugmag, Timothy Barfoot, Florian Shkurti. 6 pages. IEEE International Conference on Robotics and Automation.   [C.34]

CVPR '22   SLIC: Self-Supervised Learning with Iterative Clustering for Human Action Videos. Salar Hosseini Khorasgani*, Yuxuan (Sherry) Chen*, Florian Shkurti. 21 pages. **Oral presentation, top 6% out of 2066 accepted papers, 8161 submitted.** Computer Vision and Pattern Recognition.   [C.33]

ICRA '22   Augmenting Offline Experience for Imitation Learning via Equivariant Representations. Dhruv Sharma, Alihusein Kuwajerwala, Florian Shkurti. IEEE International Conference on Robotics and Automation. 8 pages.   [C.32]

CoRL '21   Taskography: Evaluating Robot Task Planning over Large 3D Scene Graphs. Christopher Agia*, Krishna Murthy Jatavallabhula*, Mohamed Khodeir, Ondrej Miksik, Vibhav Vineet, Mustafa Mukadam, Liam Paull, Florian Shkurti. Conference on Robot Learning. 13 pages.   [C.31]

CoRL '21	Seeing Glass: Joint Point-Cloud and Depth Completion for Transparent Objects. Haoping Xu*, Yi Ru Wang*, Sagi Eppel, Alan Aspuru-Guzik, Florian Shkurti, Animesh Garg. Conference on Robot Learning. 19 pages. **Oral presentation, top 6.5% out of 400 papers submitted.**	[C.30]
ICCV '21	Physically Plausible Human Motion Estimation for Learning Motion Synthesis from Video. Kevin Xie, Tingwu Wang, Umar Iqbal, Yunrong Guo, Sanja Fidler, Florian Shkurti. International Conference on Computer Vision. 17 pages.	[C.29]
IROS '21	Latent Attention Augmentation for Robust Autonomous Driving Policies. Chris Agia, Ran Cheng, David Meger, Florian Shkurti, Gregory Dudek. IEEE International Conference on Robots and Intelligent Systems. 8 pages.	[C.28]
ICLR '21	Conservative Safety Critics for Exploration. Homanga Bharadhwaj, Aviral Kumar, Nick Rhinehart, Sergey Levine, Florian Shkurti, Animesh Garg. International Conference on Learning Representations. 25 pages.	[C.27]
ICLR '21	gradSim: Differentiable Physics and Rendering Engines for Parameter Estimation from Video. Krishna Jatavallabhula, Miles Macklin, Florian Golemo, Vikram Voleti, Linda Petrini, Martin Weiss, Breandan Considine, Jerome Parent-Levesque, Kevin Xie, Kenny Erleben, Liam Paull, Florian Shkurti, Sanja Fidler, Derek Nowrouzezahrai. International Conference on Learning Representations. **Top 15% of 860 accepted papers**. 25 pages.	[C.26]
ICLR '21	Latent Skill Planning for Exploration and Transfer. Kevin Xie*, Homanga Bharadhwaj*, Danijar Hafner, Animesh Garg, Florian Shkurti. International Conference on Learning Representations. 13 pages.	[C.25]
ICRA '21	Continual Model-Based Reinforcement Learning with Hypernetworks. Yizhou Huang, Kevin Xie, Homanga Bharadhwaj, Florian Shkurti. IEEE International Conference on Robotics and Automation. 13 pages.	[C.24]
ICRA '21	LEAF: Latent Exploration Along the Frontier. Homanga Bharadhwaj, Animesh Garg, Florian Shkurti. IEEE International Conference on Robotics and Automation. 20 pages.	[C.23]
ICRA '21	Shaping Rewards for Reinforcement Learning with Imperfect Demonstrations using Generative Models. Yuchen Wu, Melissa Mozifian, Florian Shkurti. IEEE International Conference on Robotics and Automation. 7 pages.	[C.22]
CVPR '21	LOHO: Latent Optimization of Hairstyles via Orthogonalization. Brendan Duke, Rohit Saha, Florian Shkurti, Graham Taylor, Parham Aarabi. Conference on Computer Vision and Pattern Recognition. 18 pages.	[C.21]
AAAI '21	DIBS: Diversity-Inducing Information Bottleneck in Model Ensembles. Samarth Sinha, Homanga Bharadhwaj, Anirudh Goyal, Hugo Larochelle, Animesh Garg, and Florian Shkurti. American Association of Artificial Intelligence. 11 pages.	[C.20]
RSS '20	Vision-Based Goal-Conditioned Policies for Underwater Navigation in the Presence of Obstacles. Travis Manderson, Juan Camilo Gamboa-Higuera, Stefan Wapnick, Florian Shkurti, Jeff Tremblay, David Meger and Gregory Dudek. Robotics: Science and Systems.	[C.19]

IROS '20	Catch the Ball: Accurate High-Speed Motions for Mobile Manipulators via Inverse Dynamics Learning. Ke Dong, Karime Pereida, Florian Shkurti, and Angela Schoellig. IEEE International Conference on Intelligent Robots and Systems. 8 pages.	[C.18]
IROS '20	One-Shot Informed Robotic Visual Search in the Wild. Karim Koreitem, Florian Shkurti, Travis Manderson, Wei-Di Chang, Juan Camilo Gamboa Higuera, and Gregory Dudek. IEEE International Conference on Intelligent Robots and Systems. 8 pages.	[C.17]
L4DC '20	Model-Predictive Control via Cross-Entropy and Gradient-Based Optimization. Homanga Bharadhwaj*, Kevin Xie*, and Florian Shkurti. Learning for Dynamics and Control. 11 pages.	[C.16]
ICRA '19	Generating Adversarial Self-Driving Scenarios in High-Fidelity Simulators. Yasasa Abeysirigoonawardena, Florian Shkurti and Gregory Dudek. IEEE International Conference on Robotics and Automation. 7 pages.	[C.15]
ICRA '18	Model-Based Probabilistic Pursuit via Inverse Reinforcement Learning. Florian Shkurti, Nikhil Kakodkar, Gregory Dudek. IEEE International Conference on Robotics and Automation. 8 pages.	[C.14]
IROS '17	Underwater Multi-Robot Convoying using Visual Tracking by Detection. Florian Shkurti, Wei-Di Chang, Peter Henderson, Jahidul Islam, Juan Camilo Gamboa Higuera, Jimmy Li, Travis Manderson, Anqi Xu, Gregory Dudek, and Junaed Sattar. IEEE International Conference on Intelligent Robots and Systems. 8 pages.	[C.13]
IROS '17	Topologically distinct trajectory predictions for probabilistic pursuit. Florian Shkurti and Gregory Dudek. IEEE International Conference on Intelligent Robots and Systems. 8 pages.	[C.12]
CRV '16	Texture-Aware SLAM Using Stereo Imagery And Inertial Information. Travis Manderson, Florian Shkurti, Gregory Dudek. Conference on Computer and Robot Vision. 8 pages.	[C.11]
IROS '14	3D Trajectory Synthesis and Control for a Legged Swimming Robot. David Meger, Florian Shkurti, David Cortes, Philippe Giguere, Gregory Dudek. IEEE International Conference on Intelligent Robots and Systems. 8 pages.	[C.10]
IROS '14	Ear-Based Exploration on Hybrid Metric/Topological Maps. Qiwen Zhang, David Whitney, Florian Shkurti, Ioannis Rekleitis. IEEE International Conference on Intelligent Robots And Systems. 8 pages.	[C.9]
CRV '14	Asymmetric Rendezvous Search at Sea. Malika Meghjani, Florian Shkurti, Juan Camilo Gamboa Higuera, Arnold Kalmbach, David Whitney, Gregory Dudek. Conference on Computer and Robot Vision. 8 pages.	[C.8]
ICRA '14	Maximizing Visibility in Collaborative Trajectory Planning. Florian Shkurti and Gregory Dudek. IEEE International Conference on Robotics and Automation. 8 pages.	[C.7]
ICRA '13	On the Complexity of Searching for an Evader with a Faster Pursuer. Florian Shkurti and Gregory Dudek. IEEE International Conference on Robotics and Automation. 6 pages.	[C.6]

IROS '12	Multi-Domain Monitoring of Marine Environments Using a Heterogeneous Robot Team. Florian Shkurti, Anqi Xu, Malika Meghjani, Juan Gamboa, Yogesh Girdhar, Philippe Giguere, Bikram Dey, Jimmy Li, Arnold Kalmbach, Chris Prahacs, Katrine Turgeon, Ioannis Rekleitis, Gregory Dudek. IEEE International Conference on Intelligent Robots and Systems. 7 pages.	[C.5]
CRV '12	Socially-Driven Collective Path Planning for Robot Missions. Juan Camilo Gamboa Higuera, Anqi Xu, Florian Shkurti, Gregory Dudek. Conference on Computer and Robot Vision. 8 pages.	[C.4]
IROS '11	State Estimation of an Underwater Robot using Visual and Inertial Information. Florian Shkurti, Ioannis Rekleitis, Milena Scaccia, Gregory Dudek. IEEE International Conference on Intelligent Robots and Systems. 7 pages.	[C.3]
IROS '11	MARE: Marine Autonomous Robotic Explorer. Yogesh Girdhar, Anqi Xu, Bikram Dey, Malika Meghjani, Florian Shkurti, Ioannis Rekleitis, Gregory Dudek. IEEE International Conference on Intelligent Robots and Systems. 6 pages.	[C.2]
CRV '11	Feature Tracker Evaluation for Pose Estimation in Underwater Environments. Florian Shkurti, Ioannis Rekleitis, Gregory Dudek. Conference on Computer and Robot Vision. 8 pages.	[C.1]

Peer-Reviewed Workshop Papers

RSS '23	Generating Transferable Adversarial Simulation Scenarios for Self-Driving via Neural Rendering. Yasasa Abeysirigoonawardena*, Kevin Xie, Sally Chen, Salar Hosseini, Ruiqi Wang, Ruiting Chen, Florian Shkurti. **Best paper award and oral presentation** at RSS'23 workshop on Safe Autonomy (out of 11 accepted papers). 6 pages.	[W.6]
ICML '23	Exploring Continual Learning of Diffusion Models. Michał Zając, Kamil Deja, Anna Kuzina, Jakub M. Tomczak, Tomasz Trzciński, Florian Shkurti, Piotr Miłoś. 6 pages. ICML '23 Workshop on Continual Learning.	[W.5]
CoRL '22	Policy-Guided Lazy Search with Feedback for Task and Montion Planning. Mohamed Khodeir*, Atharv Sonwane*, Florian Shkurti. 4 pages. *CoRL'22 workshop on Learning, Perception, and Abstraction for Long-Horizon Planning*. **Best paper award and oral presentation** out of 19 accepted papers.	[W.4]
RSS '20	Self-Supervised, Goal-Conditioned Policies for Navigation in Unstructured Environments. Travis Manderson, Stefan Wapnick, Jean Francois Tremblay, Hanqing Zhao, Florian Shkurti, David Meger, Gregory Dudek. *RSS '20 Workshop on Self-Supervised Robot Learning*. **Best Paper Award**.	[W.3]
RSS '20	Collaborative Human-Robot Exploration for Marine Environments. Juan Camilo Gamboa Higuera, Travis Manderson, Karim Koreitem, Wei-Di Chang, Florian Shkurti, David Meger, Gregory Dudek. RSS '20 Workshop on Assistive & Collaborative Robotics: Decoding Intent.	[W.2]

| ICML '17 | Benchmark Environments for Multitask Learning in Continuous Domains. Peter Henderson, Wei-Di Chang, Florian Shkurti, Johanna Hansen, David Meger, Gregory Dudek. Lifelong Learning Workshop at the International Conference on Machine Learning. | [W.1] |

Book Chapters (invited)

| SAGE '22 | The History and Future of Human-Robot Communication. Florian Shkurti. *SAGE Handbook of Human-Machine Communication*. Editors: Rhonda McEwen, Andrea L. Guzman, Steve Jones | [B.1] |

TEACHING EXPERIENCE

University of Toronto

CSC2626: Imitation Learning for Robotics, graduate course. 44 students. Rated 4.6/5.0	2024
CSC413: Neural Networks and Deep Learning, undergraduate course. 59 students. Rated 4.1/5.0	2024
CSC477: Introduction to Mobile Robotics, undergraduate course. 36 students. Rated 4.6/5.0	2021
CSC413: Neural Networks and Deep Learning, undergraduate course. 48 students. Rated 4.4/5.0	Winter 2023
CSC413: Neural Networks and Deep Learning, undergraduate course. 58 students. Rated 3.5/5.0	Fall 2023
CSC413: Neural Networks and Deep Learning, undergraduate course. 42 students. Rated 4.1/5.0	2022
CSC477: Introduction to Mobile Robotics, undergraduate course. 31 students. Rated 4.4/5.0	2021
CSC2626: Imitation Learning for Robotics, graduate course. 34 students. Rated 4.5/5.0	2021
CSC413: Neural Networks and Deep Learning, undergraduate course. 35 students. 4.5/5.0	2021
CSC477: Introduction to Mobile Robotics, undergraduate course. 46 students. Rated 4.5/5.0	2020
CSC477: Introduction to Mobile Robotics, undergraduate course. 15 students. Rated 4.5/5.0	2019
CSC2621: Imitation Learning for Robotics, graduate course. 29 students. Rated 4.5/5.0	2019
TA for Capstone course in AI for robot soccer, supervised by Prof. Steve Engels[1]	2009

McGill

Instructor for undergraduate robotics course, COMP417. 45 students. Rated 4.8/5.0	2017
TA for undergraduate algorithms course, COMP360, supervised by Prof. Yang Cai	2016
TA for graduate robotics course, COMP765, supervised by Prof. Gregory Dudek	2012
TA for graduate computer vision course, COMP558, supervised by Prof. Michael Langer	2011

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[1]While an undergraduate student, I proposed the concept of the creation of this new AI course to the Computer Science department, and recruited students to enroll. The course was so popular that it was offered for two more semesters after I had graduated.

STUDENT SUPERVISION

Career Student Numbers		
	In progress	Completed
Undergraduates	2	48
Masters	4	13
PhD	6	0
Post Doctoral Fellows	3	1

Current Postdoctoral Fellows

Qi Chen, University of Toronto, Computer Science   April 2024-
Topic: Optimal Experiment Design.

Michael Gimelfarb, University of Toronto, Computer Science   Jan 2024-
Topic: Off-policy Evaluation.

Miroslav Bogdanovic, University of Toronto, Computer Science   Sep 2023-
Co-supervised with Animesh Garg.
Topic: Reinforcement learning for manipulation skills.

Current Ph.D. Students

Qiao Gu, University of Toronto, Computer Science.   Sept 2021-
Topic: Continual learning for image classification and model-based reinforcement learning

Wei-Cheng Tseng, University of Toronto, Computer Science.   Sept 2022-
Topic: Learning video models for manipulation

Skylar (Siqi) Hao, University of Toronto, Computer Science.   Sept 2020-
Topic: System identification and safe sim-to-real transfer

Quentin Clark, University of Toronto, Computer Science.   Sept 2024-
Topic: Compositionality in generative models for imitation learning

Sepehr Samavi, University of Toronto, UTIAS.   Sept 2021-
Co-supervised with Angela Schoellig.
Topic: Interactive robot navigation in human crowds

Hossein Goli, University of Toronto, Computer Science.   Sept 2025-
Topic: Off-Policy Evaluation

Brandon Huang, University of Toronto, Computer Science.   Sept 2025-
Topic: TBD

Current M.Sc. Students

Blerim Abdullai, University of Toronto, Computer Science.   Sept 2023-
Topic: Radar perception and localization for autonomous boats

Daniel Hocevar, University of Toronto, Computer Science.   Sept 2024-
Co-supervised with Milica Radisic.
Topic: High-precision vision-based robotic manipulation for biology lab automation

Nathan De Lara, University of Toronto, Computer Science.   Sept 2024-
Topic: Offline to online reinforcement learning

James Ross, University of Toronto, Computer Science.   Sept 2024-
Topic: Neural Interactive Simulators for Manipulation via Gaussian Splatting

Alumni: Postdocs

Kourosh Darvish, University of Toronto, Computer Science   Mar 2022-
Co-supervised with Animesh Garg.
Topic: Task and motion planning for bimanual robot manipulation in chemistry labs.
Next: Research Scientist, Acceleration Consortium

Alumni: MSc Students

Jinbang Huang, University of Toronto, UTIAS.   Sept 2022-2024
Co-supervised with Jonathan Kelly.
Topic: Active perception for task and motion planning
Next: Research Engineer, Huawei Noah's Ark Research, Toronto

Anthony Lem, University of Toronto, Computer Science.   Sept 2023-2025
Topic: Joint prediction and perception for sidewalk navigation

Mohamed Khodeir, University of Toronto, Computer Science.   Sept 2021-2023
Topic: Learning-based task and motion planning
Next: Research Engineer, Waabi, Toronto

Andrei Ivanovic, University of Toronto, Computer Science.   Sept 2021-2023
Topic: Uncertainty Calibration for MPC with Trajectory Prediction Models
Next: Amazon Robotics, Toronto

Salar Hosseini, University of Toronto, Computer Science.   Sept 2021-2023
Topic: Visual similarity learning for video events
Next: Research Engineer, Samsung AI

Philip (Yizhou) Huang, University of Toronto, Computer Science.   Sept 2021-2023
Topic: Continual learning for model-based RL. Task and motion planning. Field robotics.
Next: CMU, Robotics Institute, PhD

Cong Wei, University of Toronto, Computer Science.   2020-2023
Topic: Unsupervised event-based video summarization
Next: Waterloo, Computer Science, PhD

Yasasa Abeysirigoonawardena, University of Toronto, Computer Science   Sept 2022-2024
Topic: Generating challenging driving scenarios.
Next: Research Engineer, Waabi

Yewon Lee, University of Toronto, Computer Science   Sept 2022-2024

Topic: Stein Task and Motion Planning.
Next: University of Washington, Computer Science, PhD

Skylar (Siqi) Hao, University of Toronto, Computer Science.   Sept 2020-Jan 2022
Topic: Safe sim-to-real transfer

Homanga Bharadhwaj, University of Toronto, Computer Science.   Sept 2019 - Dec 2020
Co-supervised with Animesh Garg.
Topic: Safe exploration in reinforcement learning
Next: Carnegie Mellon University, PhD, Computer Science

Dhruv Sharma, University of Toronto, Computer Science.   Sept 2019 - Dec 2020
Topic: Robust vision-based imitation learning through equivariant data augmentation
Next: Research Scientist, Huawei

Kevin (Cheng) Xie, University of Toronto, Computer Science.   Sept 2019 - Dec 2020
Co-supervised with Sanja Fidler.
Topic: Model-based RL and generative models
Next: Nvidia & University of Toronto, PhD, Computer Science

Ke Dong, University of Toronto, UTIAS.   Sept 2019 - Dec 2020
Co-supervised with Angela Schoellig.
Topic: Learning for fast, dynamic control in mobile manipulation
Next: Tencent AI

Alumni: Visiting Students

Fabian Damken, MSc student, TU Darmstadt.   Oct 2022-Apr 2023
Topic: Learning A Heuristics*

Derek Tan, PhD student, NUS.   Jan 2025-Apr 2025
Topic: Exploration and coverage using VLM features

Melissa Mozifian, Ph.D. student, MILA/McGill University, Computer Science.   Summer 2019
Topic: Combining imitation and reinforcement learning

David Helm, MSc student, ETH Zurich, Robotics, Systems, and Control.   Oct 2022-Apr 2023
Topic: Human motion prediction

Michal Zajac, PhD student, Jagiellonian University, Computer Science.   Sept 2022-Jan 2023
Topic: Continual reinforcement learning

Alumni: Undergraduates

Andrew Zou Li, University of Toronto, Engineering Science.   2022-2025
Topic: Task and motion planning for the chemistry lab
Next: CMU, MSc in Robotics

Alex Alexiev, University of Toronto, Engineering Science.   2022-2025
Topic: Task and motion planning
Next: MIT, Mechanical Engineering, PhD

Jason Liu, University of Toronto, Engineering Science.   2024

Topic: Learning RL policies with Geometric Fabrics
Next: CMU, Robotics, PhD

Ruiting Chen, University of Toronto, Computer Science.   2022-2025
Topic: Learning residual dynamics for contact-rich trajectories
Next: Stanford, Computer Science, MSc

Ariel Chen, University of Toronto, Computer Science.   2023-2024
Topic: Learning multi-agent trajectory prediction models
Next: Stanford, Computer Science, MSc

Maria Chzhen, University of Toronto, Industrial Engineering.   2024
Topic: Learning continuous-time occupancy maps from LIDAR

Jerry Zhu, University of Toronto, Statistics.   2024
Topic: Informing Acquisition Functions for BayesOpt with Foundation Models
Next: U. Chicago, Statistics, PhD

Hamza Dugmag, University of Toronto, Engineering Science.   2022
Topic: Autonomous boat for environmental monitoring and water sampling

Jisu Qian, University of Toronto, Computer Science.   2022
Topic: System identification

Kathy Zhuang, University of Toronto, Engineering Science.   2022
Topic: RGBD sensor simulation for transparent objects
Next: Berkeley, EECS, MSc

Alex Liu, University of Toronto, Engineering Science.   2022
Topic: RGBD sensor simulation for transparent objects

Yuchi (Allan) Zhao, University of Waterloo, Mechatronics Engineering.   2021-2024
Topic: RGBD transparent object detection
Next: University of Toronto, Computer Science, PhD

Helen Wang, University of Toronto, Engineering Science.   2021-2022
Topic: RGBD transparent object detection
Next: University of Washington, PhD, Computer Science

Hongyi Sun, University of Toronto, Computer Science.   2020-2021
Topic: Differentiable rendering for driving simulation

Zoey Cui, University of Toronto, Computer Science.   2021
Topic: Autonomous water sampling with robot boats

Ruiqi Wang, University of Toronto, Computer Science.   2021-2022
Topic: Differentiable rendering for driving simulation
Next: Stanford, MSc, Computer Science

Ben Agro, University of Toronto, Engineering Science.   2021
Topic: Learning-based task and motion planning
Next: Waabi & University of Toronto, Computer Science, PhD

Aditya Saigal, University of Toronto, Engineering Science.   2021-2022

Topic: Continual learning for model-based RL

Jason Tang, University of Toronto, Computer Science. 2020-2021
Topic: Continual learning for image classification
Next: University of Toronto, MScAC, Computer Science

Xiaohe (Heddy) Gong, University of Toronto, Computer Science. 2020
Topic: Continual learning for image classification

Rupert Wu, University of Toronto, Computer Science. 2020-2021
Topic: Continual learning for image classification
Next: University of Toronto, MSc, Computer Science

Kimberly Hau, University of Toronto, Engineering Science. 2021
Topic: Autonomous water sampling with robot boats

Charlotte Zhang, University of Toronto, Engineering Science. 2021
Topic: Autonomous water sampling with robot boats

Artur Kuramshin, University of Toronto, Computer Science. 2021
Topic: Autonomous water sampling with robot boats
Next: Sanctuary AI

Yewon Lee, University of Toronto, Engineering Science. 2021-2022
Topic: Contrastive learning representations for control
Next: University of Toronto, MSc, Computer Science

Julia Chae, University of Toronto, Engineering Science. 2021-2022
Topic: Contrastive learning representations for control
Next: MIT, PhD, EECS

Pranit Chawla, IIT Kharagpur, Electrical Engineering. 2020-2021
Topic: Contrastive learning representations for control
Next: CMU, MSc, Robotics Institute

Chris Agia, University of Toronto, Engineering Science. 2020-2021
Thesis: Learning search heuristics using graph neural networks
Next: Stanford, PhD, Computer Science

Sally Chen, University of Toronto, Computer Engineering. 2020-2021
Topic: Differentiable rendering for driving simulation
Next: Carnegie Mellon University, MSc, Computer Science

Sherry Chen, University of Toronto, Engineering Science. 2020-2021
Topic: Visual similarity learning for video events
Next: MSc at UTIAS, University of Toronto

Salar Hosseini, University of Toronto, Engineering Science. 2020-2021
NSERC Undergraduate Research Award (USRA)
Topic: Visual similarity learning for video events
Next: MSc in Computer Science, University of Toronto

Andrei Ivanovic, University of Toronto, Engineering Science. 2020
ESROP Undergraduate Research Award

Topic: Visual similarity learning for LiDAR and RGB Images

Stephen Zhao, University of Toronto, Computer Science (with Prof. Yang Xu)   2020
NSERC Undergraduate Research Award (USRA)
Topic: Multi-agent RL under fairness constraints
Next: MSc in Computer Science, University of Toronto

Ali Kuwajerwala, University of Toronto Mississauga, Computer Science.   2020
NSERC Undergraduate Research Award (USRA)
Topic: Backwards reachability for nonlinear systems
Next: MSc in Computer Science, MILA/UdeM

Cathlyn Chen, University of Toronto, Engineering Science.   2020
Topic: Backwards reachability for nonlinear systems

Kamran Ramji, University of Toronto, Engineering Science.   2020
Topic: Combining imitation and reinforcement learning
Next: Apple Inc

Philip (Yizhou) Huang, University of Toronto, Engineering Science.   2019-2021
UTEA summer research award.
Topic: Continual learning for model-based RL
Next: MSc in Computer Science, University of Toronto

Yuchen Wu, University of Toronto, Engineering Science. UTEA summer research award.   2018-2020
Honorable mention, CRA Outstanding Undergraduate Researcher Award.
Topic: Combining imitation and reinforcement learning
Next: MSc at UTIAS, University of Toronto

Zihan Wang, University of Toronto, Engineering Science   2019
Topic: Reading course on imitation learning
Next: Stanford, Computer Science, MSc

Zidong Weng, University of Toronto, Computer Engineering   2019-2020
Topic: Deep predictive models for imitation learning
Next: Intel

Julia Chae, University of Toronto, Engineering Science, USROP summer research award.   2019
Topic: Adversarial attacks on combined vision and LiDAR classifiers

Siyun Li, University of Toronto, Engineering Science. USRA summer research award.   2019-2020
Topic: Generating adversarial driving scenarios in differentiable LiDAR simulators.
Next: Stanford, Computer Science, MSc

Fengjia Zhang, University of Toronto, Computer Science.   2019-2020
Topic: Adversarial attacks for self-driving

Shichen Lu, University of Toronto, Engineering Science   2019-2020
Topic: POMDP planning as variational inference
Next: UTIAS, MSc

Zichu Liu, University of Toronto, Engineering Science   2018-2019
Thesis: Query-efficient imitation learning via bootstrapping

Haozhe Sheng, University of Toronto, Engineering Science — 2018-2019
Thesis: Action-conditional video prediction via vector quantization
Next: Google Inc

Yasasa Abeysirigoonawardena, McGill University, ECE — 2018-2019
Topic: Active learning for generating challenging driving scenarios.
Next: Unity 3D Game Engine

Peter Park, McGill University, CS — 2018
Topic: Multi-agent Bayesian inverse reinforcement learning.

Gabe Cemaj Hochstein, McGill University, CS — 2017
Topic: Imitation learning for Partially Observable Markov Decision Processes (POMDPs).
Next: Bloomberg

Daniele Bercovici, McGill University, CS — 2016
Topic: Human-aware autonomous social robot navigation.

APPROVED FUNDING

Toyota Research Institute. $500,000 CAD. — 2024-2026
Quantifying Uncertainty for Visuomotor Policies and Vision-Language Models for Robotic Manipulation.
Primary Applicant: Florian Shkurti
Co-Applicant: Igor Gilitschenski

Canada First Research Excellence Fund. $200,000,000 CAD. — 2023-2029
Acceleration Consortium: Self-Driving Labs for Molecular and Materials Discovery.
Partner institutions: The University of British Columbia.
Primary applicant: Alan Aspuru-Guzik. I was one of the 10 co-PIs.
https://acceleration.utoronto.ca/

Canada Foundation for Innovation (CFI). Equipment Grant. $1,785,000 CAD. — 2023-2027
Centre for Robotic Observations of the Biosphere and the Environment (CROBE).
Primary applicant: Ingo Ensminger. I was one of the 10 co-PIs.

Connaught New Researcher Award. $20,000 CAD. — 2021-2023
New Directions in Robotic Environmental Monitoring via Machine Learning.
Primary applicant: Florian Shkurti.

Amazon Research Award in Robotics, Gift, $100,000 USD — 2020-2021
Generating physically realizable adversarial driving scenarios via differentiable physics and rendering simulators.
Primary applicant: Florian Shkurti

CFI John Evans Leaders Fund, Equipment Grant, $352,000 CAD — 2020-2023
Autonomous Mobile Manipulation in Human Environments: Learning Algorithms and Robot Systems.
Primary applicant: Florian Shkurti. Co-applicant: Animesh Garg.

NSERC Research Tools and Instruments, Equipment Grant, $149,000 CAD — 2020-2021
Autonomous Robots for Scientific Monitoring of Marine Environments.
Primary applicant: Florian Shkurti. Co-applicant: Igor Gilitschenski.

Dean's Strategic Fund, Faculty of Applied Science and Engineering, U. of Toronto   2020-2023
$325,000. *Connecting the Bots: Accelerating Joint Robotics Research between UTIAS and UTM*. Primary applicant: Tim Barfoot. Co-applicants: Jessica Burgner-Kahrs, Steven Waslander, Angela Schoellig, Jon Kelly, Animesh Garg, Florian Shkurti.

New Frontiers in Research Fund (NFRF) Exploration, $250,000 CAD   2020-2022
Reproducible Chemical Synthesis and Materials Discovery via Human Demonstrations and Autonomous Robotics. Primary applicant: Florian Shkurti. Co-applicants: Animesh Garg, Sanja Fidler, Angela Schoellig, Alan Aspuru-Guzik.

NSERC Discovery, $127,500 CAD   2019-2024
New Directions in Robotic Environmental Monitoring via Machine Learning. Primary applicant: Florian Shkurti.

University of Toronto XSeed Award, $120,000 CAD   2019-2021
Active and Sample-Efficient Robot Learning with Human Guidance. Co-applicants: Angela Schoellig, Tovi Grossman, Florian Shkurti.

TALKS

Learning to Plan and Perceive in Task and Motion Planning   2025
euRobotics Laboratory Robotics technical group seminar, online.

Learning to Plan and Perceive in Task and Motion Planning   2024
University of Michigan Robotics Seminar, Ann-Arbor, MI, USA.

Learning to Plan and Perceive in Task and Motion Planning   2024
MIT Robotics Seminar, Cambridge, MA, USA.

Learning to Search in Sampling-based Task and Motion Planning   2024
Google DeepMind, New York City, NY, USA.

Beyond system identification: differentiable physics and rendering for prediction, safety, and task and motion planning   2023
IROS'23 Workshop on Differentiable Probabilistic Robotics. Detroit, MI, USA.

Learning to Search in Sampling-based Task and Motion Planning   2023
Cornell University, Ithaca, NY, USA.

Learning to Search in Sampling-based Task and Motion Planning   2023
RSS Workshop on Learning for Task and Motion Planning, Daegu, South Korea.

Learning to Search in Sampling-based Task and Motion Planning   2023
University of Southern California, Los Angeles, USA.

Learning to Search in Sampling-based Task and Motion Planning   2022
Yale University, New Haven, USA.

General-Purpose Robots in the Chemistry Lab: Learning to Plan, Perceive, and Manipulate   2022
Acceleration Conference, Toronto.

Robots in the Wild: From Task Specification to Safety During and After Learning   2021
Samsung AI Center, Toronto.

Robots in the Wild: From Task Specification to Safety During and After Learning 2021
Vector Institute, Toronto.

Safe and continual robot learning 2020
LG, Toronto.

Algorithms and systems for robot videography 2020
MILA, Montreal.

Collaborative Human-Robot Exploration 2020
NSERC Canadian Robotics Network (NCRN).

Shaping Rewards for Combined Reinforcement and Imitation Learning 2019
Huawei AI Lab, Toronto.

Introduction to Reinforcement Learning 2019
NextAI, Toronto.

Collaborative Human-Robot Environmental Monitoring 2019
Symposium Speaker, Conference on Computer and Robot Vision.

Enabling Robot Videographers to Record the Visual Footage that Human Experts Want. 2018
University of Toronto, McGill University.

CONFERENCE ACTIVITY

Workshops Co-Organized

Physical reasoning and inductive biases for the real world 2021
NeurIPS. Co-organizers: Krishna Murthy Jatavallabhula, Rika Antonova, Kevin Smith,
Fish Tung, Jeannette Bohg, Florian Shkurti, Josh Tenenbaum.

Differentiable vision, graphics, and physics applied to machine learning 2020
NeurIPS. Co-organizers: Krishna Murthy Jatavallabhula, Kelsey Allen, Victoria Dean,
Johanna Hansen, Shuran Song, Florian Shkurti, Liam Paull,
Derek Nowrouzezahrai, Josh Tenenbaum.

Debates on the future of robotics research 2020-21
IEEE International Conference on Robotics and Automation. Co-organizers:
Matthew Giamou, Valentin Peretroukhin, Lee Clement, Sylvia Herbert, Brian Wang,
Patricia Alves Oliveira, Sarah Tang, Maira Saboia da Silva, Sudharshan Suresh,
Felix von Drigalski, Jaime Fisac, Jonathan Kelly.

Sessions Organized

Motion Planning for Robotics 2017
IEEE International Conference on Robotics and Intelligent Systems. Vancouver, Canada.

Panels

NextGen Professional Conference 2025
Toronto.

Deep Learning for Robotics 2017

Panel member with Joelle Pineau, John Tsotsos, Jon Kelly, and Martin Gerdzhev; chaired by Richard Vaughan. NSERC Canadian Field Robotics Network, Annual General Meeting, Ottawa, Canada.

SERVICE

Internal

Seminar Committee, University of Toronto Robotics Institute	2019-
Education Committee, University of Toronto Robotics Institute	2019-
MCS Department Chair Search Committee, University of Toronto Mississauga	2021
Graduate Admissions Committee, Department of Computer Science, University of Toronto	2021-
Graduate Meta-Skills Committee, Department of Computer Science, University of Toronto	2020
Graduate Affairs Committee, Department of Computer Science, University of Toronto	2020
Robotics Faculty Search Committee, Department of Computer Science, University of Toronto	2019
ACT Building Committee, University of Toronto Mississauga	2019

External

Organizing Committee, *Robotics: Science and Systems, 2022*

Reviewer, *International Journal of Robotics Research, IJRR*

Area Chair, *Neural and Information Processing Systems, NeurIPS*

Reviewer, *Neural and Information Processing Systems, NeurIPS*

Program Committee, *Conference on Robot Learning, CoRL*

Associate Editor, *IEEE International Conference on Intelligent Robots and Systems, IROS*

Reviewer, *IEEE International Conference or Robotics and Automation, ICRA*

Reviewer, *IEEE International Conference on Robotics and Intelligent Systems, IROS*

Reviewer, *Conference on Robot Learning, CoRL*

Reviewer, *Robotics: Science and Systems, RSS*

Reviewer, *International Symposium on Experimental Robotics, ISER*

Reviewer, *Conference on Computer and Robot Vision, CRV*

Reviewer, *Robotics and Automation Letters, RA-L*

Reviewer, *Transactions on Robotics and Automation, TRO*

SELECTED MEDIA COVERAGE

MIT Tech Review. *This lab robot mixes chemicals*	2024
Venture Beat. *Researchers propose 'safe' reinforcement learning algorithm for dangerous scenarios*	2020
IEEE Spectrum. *Robotic Airplane, Boat, and Submarine Team Up to Monitor Coral Reefs.*	2012

OUTREACH

Faculty co-sponsor of "Her Code Camp", a free computer science summer camp for high school students who identify as women, non-binary, or transgender	2019-
Taught at McGill's Computer Science Summer Camp for high school students.	2013, 2015
Helped conduct lab tours for high school students.	2012-2017

Represented McGill's School of Computer Science at Vanier College for Science Week.　2010
Ambassador of the Department of Computer Science at the University of Toronto.　2009

LANGUAGES

English (fluent); Greek (fluent); Albanian (fluent); French (basic).

CITIZENSHIP

Canadian, Albanian

Updated April 2025