

Curriculum Vitae

FLORIAN GOLEMO, Ph.D.

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Languages: German/English (Native), Dutch (Adv), French (Beginner)

Education

- 2015 - 2018 **Ph.D., Computer Science (Robotics)**
Université Bordeaux
Advisor: Dr. Pierre-Yves Oudeyer and Dr. Aaron Courville
Thesis: “How to Train Your Robot-New Environments for Robotic Training and New Methods for Transferring Policies from the Simulator to the Real Robot” [T1]
Published: [B1][C8][C10][C17][W6][S2][S1]
- 2013 - 2015 **M.Sc., Artificial Intelligence (Cognitive Science track)**
Vrije Universiteit (VU) Amsterdam
Thesis Title: “A Bio-inspired Cognitive Architecture of the Zebra Finch’s Birdsong Learning System to Model Circadian Differences in Learning a Tutor Song”
Published: [C11]
- 2010 - 2013 **B.Sc., Computer Science**
Universität Leipzig
Published: [B2][W7][W8]

Research Experience

- 2024 - present **Research Scientist - Mila, the Quebec AI Institute - co-leading the research group, working on 3D perception & robots for blind/low-vision people**
- 2022 - 2024 Postdoctoral Fellow - McGill University / Mila
- 2019 - 2022 Postdoctoral Fellow - Université de Montréal / Mila, Postdoctoral Intern - ElementAI
- 2014 - 2015 Student Research Assistant - VU Amsterdam
- 2013 - 2014 Student Research Assistant - Universität Leipzig

Teaching Experience

- 2024 PSYC 433 “Cognitive Science”, McGill Psychology undergraduate program - Lecturer
- 2024 “Analyzing and Visualizing Data in Python”, McGill HBHL program - Organizer and lecturer
- 2022-2023 Montreal Robotics Summer School - Co-organizer, guest lecturer, and responsible for robot experiments
- 2019 Introduction to Reinforcement Learning, Second Nepal Winter School in AI - Guest lecturer
- 2019 Practical Sim2Real Transfer, part of Université de Montréal IFT6757 Autonomous Vehicles (a.k.a. “Duckietown”) - Guest lecturer

2017-2019	“Duckietown”, Université de Montréal IFT6757 Autonomous Vehicles - Teaching assistant
2017-2019	MIAGE Réseaux, Introduction to Networks at Université Bordeaux - Co-developer and co-lecturer
2017-2019	Algorithmique des structures de données arborescentes (ASDA), Data structures class at Université Bordeaux - Co-developer and co-lecturer
2014-2015	Introduction to Machine Learning, VU Amsterdam - Teaching assistant

Advisory Experience

Mentored Graduate Students:

2019 - 2025	Roger Girgis (PhD - successfully defended, Montreal, mentor) - Trajectory forecasting in self-driving cars and multi-agent environments (published [C4, C1, C7])
2019 - 2025	Yasmeen Hitti (PhD - successfully defended, Montreal, mentor) - Growth simulator and robotic plant lights for training a reinforcement learning agent to grow a plant (published J1, W2)

Mentoring Interns:

2026	Joanna Wolski (intern, Montreal, mentor) - Robotic guide dogs for blind/low-vision people
2024 - 2025	Mai Ababneh (intern, Montreal, mentor) - Smartglasses for blind/low-vision people
2024	Francis Picard (intern w/ Humanware, Montreal, mentor) - Adding 3D perception and navigation capabilities to smartglasses to help blind/low-vision people
2024	Loic Mandine (intern w/ Hydro Quebec, Montreal, mentor) - A general-purpose computer vision system for reading gauges
2021 - 2022	Abishek Jain (intern, Montreal, mentor) - SLAM as part of a reinforcement learning pipeline
2019 - 2020	Sharath Chandra (intern, Montreal, mentor) - CuNAS [W5] and self-supervised curricula generation [C15]

Funded Grants & Awards

- [G1] “Arch[AI]ve: Building an AI-Assisted Tool for Conserving and Curating Orphan Films” *CFI - Canadian Foundation for Innovation*.
Principal investigators: Laurence McFalls, and Christopher Pal. June 2026 - June 2029. Total value \$370,00.
- [G2] “ArchAIve – Advancing AI for Film Archive Annotation, Analysis and Indexing/” *IVADO*.
Principal investigators: Christopher Pal. June 2026 - June 2027. Total value \$100,000. [Announcement](#)
- [G3] “**McGill Teaching Excellence Award.**” *McGill Postdoc Association*. Awarded for outstanding teaching performance and student reviews in the spring term 2024. [Announcement](#)
- [G4] “Learning Representations from Physical Interaction.” *Microsoft Research*.
Principal investigators: Devon Hjelm, Mihai Jalobeanu, Yonatan Bisk, Liam Paull, and Aaron Courville. May 2020 - May 2022. Total value \$112,000. [Announcement](#)

- [G5] “Language Grounded in Vision for Embodied Agent Navigation and Interaction.” *CIFAR Catalyst program*. Principal investigators: Christopher Pal, Sanja Fidler, and Dave Meger. Sept. 2020 - Sept. 2021. Total value \$50 000. [Press release](#).
- [G6] “Unsupervised Learning of 3D Scenes from Images using a View-based Representation.” *MITACS Accelerate*. Principal investigators: Aaron Courville and Christopher Pal. May 2019 - Jan 2021. Total Value \$60,000.

Academic Services

Workshops Organized

- RSS 2022 [3rd Workshop on Closing the Reality Gap in Sim2Real Transfer for Robotics](#)
- CVPR 2021 [Workshop on Continual Learning in Computer Vision](#)
- RSS 2020 [2nd Workshop on Closing the Reality Gap in Sim2Real Transfer for Robotics](#)
- CVPR 2020 Workshop on [Learning 3D Generative Models](#)
- CVPR 2019 [First Workshop on Deep Generative models for 3D understanding](#)
- [The AI Driving Olympics II live competition](#) at the International Conference on Robotics and Automation (ICRA) 2019
- [The AI Driving Olympics I live competition](#) at the Neural Information Processing Systems (NeurIPS) 2018

Journals and Conferences Reviewed

- Conference on Computer Vision and Pattern Recognition (CVPR)
- Conference on Robot Learning (CoRL)
- European Conference on Computer Vision (ECCV)
- IEEE International Conference on Robotics and Automation (ICRA)
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- IEEE Robotics & Automation Letters (RA-L)
- IEEE Transactions on Robotics (T-RO)
- International Conference on Learning Representations (ICLR) - **Outstanding Reviewer**
- International Conference on Machine Learning (ICML)
- International Joint Conferences on Artificial Intelligence (IJCAI)
- Journal of Machine Learning Research (JMLR)
- Neural Information Processing Systems (NeurIPS) - **Outstanding Reviewer**
- Transactions on Machine Learning Research (TMLR)

Talks and Seminars Organized

- [Mila Robotics Summer School 2022 and 2023](#), Mila - Co-Organizer
- Sim2Real Tutorial Series, Université de Montréal - Host and presenter
- [Robot Learning Seminar Series](#), Université de Montréal - Co-Organizer

Other Committees

- Mila Student Recruitment Committee, 2019 - 2024
- Mila Makerspace 2022 - present - Founder and workshop host

Publications

Graduate Thesis

- [T1] “How to Train Your Robot-New Environments for Robotic Training and New Methods for Transferring Policies from the Simulator to the Real Robot” Université Bordeaux. December 2018.

Patents

- [P1] Sai Rajeswar Mudumba, Cyril Ibrahim, Nitin Surya, **Florian Golemo**, David Vazquez, Pedro O. Pinheiro. “Cross-Modality Curiosity for Sparse-Reward Tasks” ServiceNow. Submitted February 2022, published March 2025. US Patent 12254063.

Book Chapters

- [B1] Julian Zilly, Jacopo Tani, Breandan Considine, Bhairav Mehta, Andrea F Daniele, Manfred Diaz, Gianmarco Bernasconi, Claudio Ruch, Jan Hakenberg, **Florian Golemo**, A Kirsten Bowser, Matthew R Walter, Ruslan Hristov, Sunil Mallya, Emilio Frazzoli, Andrea Censi, Liam Paull. “The ai driving olympics at neurips 2018” in *The NeurIPS '18 Competition*. Springer 2019. Editors: Sergio Escalera, Ralf Hebrich.
- [B2] Christian Zinke, Kyrill Meyer, **Florian Golemo**, Lars-Peter Meyer. “The Use of a Service Modeler Together with a PLM Software for the Management of Product-Related Services: A First Use-case-based Approach to Configure Service Components for Product-Related Services.” in *Product Lifecycle Management for Society*. Springer 2012. Editor: Dr. Mae Seto. p177-224.

Journal Articles

- [J1] Yasmeen Hitti, Ionelia Buzatu, Manuel Del Verme, Mark Lefsrud, **Florian Golemo**, Audrey Durand. “GrowSpace: A reinforcement learning environment for plant architecture.” *Computers and Electronics in Agriculture*. 2024.
- [J2] Glen Berseth, **Florian Golemo**, Chris Pal. “Towards Learning to Imitate from a Single Video Demonstration.” *Journal of Machine Learning Research*. 2023.
- [J3] Christopher Beckham, Martin Weiss, **Florian Golemo**, Sina Honari, Derek Nowrouzezahrai, Christopher Pal. “Visual Question Answering From Another Perspective: CLEVR Mental Rotation Tests.” *Pattern Recognition*. 2022.
- [J4] Sebastian Höfer, Kostas Bekris, Ankur Handa, Juan Camilo Gamboa, Melissa Mozifian, **Florian Golemo**, Chris Atkeson, Dieter Fox, Ken Goldberg, John Leonard, C Karen Liu, Jan Peters, Shuran Song, Peter Welinder, Martha White. “Sim2Real in Robotics and Automation: Applications and Challenges”. *IEEE Transactions on Automation Science and Engineering*. 2021.
- [J5] Sai Rajeswar, Fahim Mannan, **Florian Golemo**, Jérôme Parent-Lévesque, David Vazquez, Derek Nowrouzezahrai, Aaron Courville. “Pix2Shape: Towards Unsupervised Learning of 3D Scenes from Images Using a View-Based Representation”. *International Journal of Computer Vision*. 2020.
- [J6] Julian Zilly, Jacopo Tani, Breandan Considine, Bhairav Mehta, Andrea F Daniele, Manfred Diaz, Gianmarco Bernasconi, Claudio Ruch, Jan Hakenberg, **Florian Golemo**, A Kirsten Bowser, Matthew R Walter, Ruslan Hristov, Sunil Mallya, Emilio Frazzoli, Andrea Censi, Liam Paull. “The AI Driving Olympics at NeurIPS 2018”. *Springer NeurIPS 2018 competition proceedings*. 2020.

Refereed Conference Publications

- [C1] Luke Rowe, Roger Girgis, Anthony Gosselin, Bruno Carrez, **Florian Golemo**, Felix Heide, Liam Paull, Christopher Pal. “CtRL-Sim: Reactive and Controllable Driving Agents with Offline Reinforcement Learning”. *Conference on Robot Learning (CoRL)*. 2024.
- [C2] Sai Rajeswar, Cyril Ibrahim, Nitin Surya, **Florian Golemo**, David Vazquez, Aaron Courville, Pedro O Pinheiro. “Touch-based Curiosity for Sparse-Reward Tasks”. *Conference on Robot Learning (CoRL)*. 2022.
- [C3] Klaus Greff, Francois Belletti, Lucas Beyer, Carl Doersch, Yilun Du, Daniel Duckworth, David J Fleet, Dan Gnanapragasam, **Florian Golemo**, Charles Herrmann, Thomas Kipf, Abhijit Kundu, Dmitry Lagun, Issam Laradji, Hsueh-Ti Derek Liu, Henning Meyer, Yishu Miao, Derek Nowrouzezahrai, Cengiz Oztireli, Etienne Pot, Noha Radwan, Daniel Rebain, Sara Sabour, Mehdi SM Sajjadi, Matan Sela, Vincent Sitzmann, Austin Stone, Deqing Sun, Suhani Vora, Ziyu Wang, Tianhao Wu, Kwang Moo Yi, Fangcheng Zhong, Andrea Tagliasacchi. “Kubric: A scalable dataset generator”. *IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR)*. 2022.
- [C4] Roger Girgis, **Florian Golemo**, Felipe Codevilla, Martin Weiss, Jim Aldon D’Souza, Samira Ebrahimi Kahou, Felix Heide, Christopher Pal. “Latent Variable Sequential Set Transformers for Joint Multi-Agent Motion Prediction”. *International Conference on Learning Representations (ICLR)*. 2021.
- [C5] J. Krishna Murthy, Miles Macklin, **Florian Golemo**, Vikram Voleti, Linda Petrini, Martin Weiss, Breandan Considine, Jérôme Parent-Lévesque, Kevin Xie, Kenny Erleben, Liam Paull, Florian Shkurti, Derek Nowrouzezahrai, Sanja Fidler. “gradSim: Differentiable simulation for system identification and visuomotor control”. *International Conference on Learning Representations (ICLR)*. 2021.
- [C6] Pedro O Pinheiro, Amjad Almahairi, Ryan Y Benmaleck, **Florian Golemo**, Aaron Courville. “Unsupervised Learning of Dense Visual Representations”. *Neural Information Processing Systems (NeurIPS)*. 2020.
- [C7] Martin Weiss, Simon Chamorro, Roger Girgis, Margaux Luck, Samira E Kahou, Joseph P Cohen, Derek Nowrouzezahrai, Doina Precup, **Florian Golemo**, Christopher J Pal. “Navigation agents for the visually impaired: A sidewalk simulator and experiments”. *Conference on Robot Learning (CoRL)*. 2020.
- [C8] Bhairav Mehta, Manfred Diaz, **Florian Golemo**, Christopher J Pal, Liam Paull. “Active domain randomization”. *Conference on Robot Learning (CoRL)*. 2020.
- [C9] **Florian Golemo**, Adrien Ali Taiga, Aaron Courville, Pierre-Yves Oudeyer. “Sim-to-real transfer with neural-augmented robot simulation”. *Conference on Robot Learning (CoRL)*. 2018.
- [C10] Pablo Azagra, **Florian Golemo**, Yoan Mollard, Manuel Lopes, Javier Civera, Ana C Murillo. “A multimodal dataset for object model learning from natural human-robot interaction”. *International Conference on Intelligent Robots and Systems (IROS)*. 2017.
- [C11] **Florian Golemo**, Marjeta Markovic, Jasper Schoormans, Peter De Jonge, Maik Couwenberg, Evert Haasdijk. “Simulating Morphological Evolution in Large Robot Populations”. *Genetic and Evolutionary Computation Conference (GECCO)*. 2015.

Refereed or Abstract Refereed Workshop Publications

- [W1] **Florian Golemo**, Simon Chamorro, Martin Weiss, Christopher Pal. “A Hierarchical Reinforcement Learning Approach to Control Legged Mobile Manipulators”. *CoRL 2022 Workshop on Learning for Agile Robotics*. 2022.
- [W2] Yasmeen Hitti, Ionelia Buzatu, Manuel Del Verme, Mark Lefsrud, **Florian Golemo**, Audrey Durand. “GrowSpace: Learning How to Shape Plants”. *AAAI 2022 Workshop on AI for Agriculture and Food Systems*. 2022.
- [W3] Fabrice Normandin, **Florian Golemo**, Oleksiy Ostapenko, Pau Rodriguez, Matthew D Riemer, Julio Hurtado, Khimya Khetarpal, Dominic Zhao, Ryan Lindeborg, Timothée Lesort, Laurent Charlin, Irina Rish, Massimo Caccia. “Sequoia: A Software Framework to Unify Continual Learning Research”. *Conference on Lifelong Learning Agents (CoLLAs), Workshop Track*. 2022.
- [W4] Glen Berseth, **Florian Golemo**, Christopher Pal. “Visual Imitation with Reinforcement Learning using Recurrent Siamese Networks”. *NeurIPS 2020 Workshop on Deep Reinforcement Learning*. 2020. [Slideslive Presentation](#).
- [W5] Sharath Chandra Raparthy, Melissa Mozifian, Liam Paull, and **Florian Golemo**. “CuNAS - CUriosity-driven Neural-Augmented Simulator”. *RSS 2020 Workshop on Closing the Reality Gap in Sim2Real Transfer for Robotics*. 2020. [Video](#).
- [W6] Simon Brodeur, Ethan Perez, Ankesh Anand, **Florian Golemo**, Luca Celotti, Florian Strub, Jean Rouat, Hugo Larochelle, Aaron Courville. “Home: A household multimodal environment”. *NeurIPS 2017 Workshop on Visually-Grounded Interaction and Language (ViGIL)*. 2017.
- [W7] **Florian Golemo**. “Künstliche Intelligenz auf Basis von ’Baby Machines’: Geschichte und Architektur BMA1”. *Dritte Studentenkonferenz Informatik Leipzig*. 2012.
- [W8] **Florian Golemo**. “Unterstützung von Innovationsprozessen mit IT-Werkzeugen—Der Inno-Radar als Teil eines Innovationswerkzeugs”. *Studentenkonferenz Informatik Leipzig*. 2010.

Manuscripts Preprints and Submissions

- [J7] Anthony Gosselin, Ge Ya Luo, Luis Lara, **Florian Golemo**, Derek Nowrouzezahrai, Liam Paull, Alexia Jolicoeur-Martineau, Christopher Pal. “Ctrl-Crash: Controllable Diffusion for Realistic Car Crashes”. *arXiv preprint arXiv:2506.00227*. 2025. [PDF](#).
- [J8] Bhairav Mehta, Manfred Diaz, **Florian Golemo**, Christopher J Pal, Liam Paull. “Active Domain Randomization and Safety-Critical Few Shot Learning.” *Preprint*. 2020.
- [C12] Zhi Hao Luo, Luis Lara, Ge Ya Luo, **Florian Golemo**, Christopher Beckham, Christopher Pal. “DStruct2Design: Data and Benchmarks for Data Structure Driven Generative Floor Plan Design”. *arXiv preprint arXiv:2407.15723*. 2025. [PDF](#).
- [C13] R Devon Hjelm, Bogdan Mazouze, **Florian Golemo**, Felipe Frujeri, Mihai Jalobeanu, Andrey Kolobov. “The Sandbox Environment for Generalizable Agent Research (SEGAR)”. *arXiv preprint arXiv:2203.10351*. 2022. [PDF](#).
- [C14] Sebastian Höfer, Kostas Bekris, Ankur Handa, Juan Camilo Gamboa, **Florian Golemo**, Melissa Mozifian, Chris Atkeson, Dieter Fox, Ken Goldberg, John Leonard, C Karen Liu, Jan Peters, Shuran Song, Peter Welinder, Martha White. “Perspectives on Sim2Real Transfer for Robotics: A Summary of the R:SS 2020 Workshop”. *arXiv preprint arXiv:2012.03806*. 2020. [PDF](#).

- [C15] Sharath Chandra Raparthy, Bhairav Mehta, **Florian Golemo**, Liam Paull. “Generating Automatic Curricula via Self-Supervised Active Domain Randomization”. *arXiv preprint arXiv:2002.07911*. 2020. [PDF](#).
- [C16] Maxime Chevalier-Boisvert, Guillaume Alain, **Florian Golemo**, Derek Nowrouzezahrai. “RoboPlaNet: Learning to Poke in a Day”. *arXiv preprint arXiv:1911.03594*. 2019. [PDF](#).
- [C17] Sai Rajeswar, Fahim Mannan, **Florian Golemo**, David Vazquez, Derek Nowrouzezahrai, Aaron Courville. “Pix2Scene: Learning implicit 3D representations from images”. *OpenReview Preprint, originally submitted to ICLR*. 2018. [PDF](#).

Software & Datasets

- [S1] Maxime Chevalier-Boisvert, **Florian Golemo**, Yanjun Cao, Bhairav Mehta, Liam Paull. “Duckietown Environments for OpenAI Gym”. [GitHub Link](#)
- [S2] **Florian Golemo**, Sai Rajeswar, Fahim Mannan, David Vazquez Bermudez, Derek Nowrouzezahrai, Aaron Courville. “3D IQ Test Task (3D-IQTT) - A Dataset for Quantitative Evaluation of 3D Reconstruction from 2D Images”. DOI 10.5281/zenodo.2573265. [Zenodo Link](#).

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