Oliver Limoyo

CONTACT INFORMATION

University of Toronto
Institute for Aerospace Studies
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EDUCATION

University of Toronto, Toronto, Canada — 2017 - Present
PhD on Learning for Robotics GPA: 4.00/4.00

University of Toronto, Toronto, Canada — 2016 - 2017 (Transferred)
MASc on Manipulator Self-calibration GPA: 4.00/4.00

McGill University, Montreal, Canada — 2011 - 2016
B.Eng. Mechanical Engineering. GPA: 3.79/4.00

PUBLICATIONS

[1] T. Ablett, **Oliver Limoyo**, A. Sigal, A. Jilani, J. Kelly, K. Siddiqi, F. Hogan, and G. Dudek, "Push it to the demonstrated limit: Multimodal visuotactile imitation learning with force matching," 2023. [Online]. Available: https://arxiv.org/abs/2311.01248

[2] **O. Limoyo**, A. Konar, T. Ablett, J. Kelly, F. Hogan, and G. Dudek, "Working backwards: Learning to place by picking," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA'24)*, 2024, submitted.

[3] **O. Limoyo***, F. Maric*, M. Giamou, P. Alexson, I. Petrovic, and J. Kelly, "Euclidean equivariant models for generative graphical inverse kinematics," in *Proceedings of the Robotics: Science and Systems (RSS) Workshop on Symmetries in Robot Learning*, Daegu, Republic of Korea, Jul. 10 2023. [Online]. Available: https://arxiv.org/abs/2307.01902

[4] **O. Limoyo**, T. Ablett, and J. Kelly, "Learning sequential latent variable models from multimodal time series data," in *Intelligent Autonomous Systems 17*, ser. Lecture Notes in Networks and Systems, I. Petrovic, E. Menegatti, and I. Markovic, Eds., vol. 577. Cham: Springer Nature Switzerland, 2023, pp. 511–528, best Paper Finalist. [Online]. Available: https://arxiv.org/abs/2204.10419

[5] **O. Limoyo***, F. Maric*, M. Giamou, P. Alexson, I. Petrovic, and J. Kelly, "Generative graphical inverse kinematics," *IEEE Transactions on Robotics*, 2023, submitted. [Online]. Available: https://arxiv.org/abs/2209.08812

[6] **O. Limoyo**, B. Chan, F. Maric, B. Wagstaff, R. Mahmood, and J. Kelly, "Heteroscedastic uncertainty for robust generative latent dynamics," *IEEE Robotics and Automation Letters*, vol. 5, no. 4, pp. 6654–6661, October 2020. [Online]. Available: https://arxiv.org/abs/2008.08157

[7] O. Lamarre, **O. Limoyo**, F. Marić, and J. Kelly, "The canadian planetary emulation terrain energy-aware rover navigation dataset," *The International Journal of Robotics Research*, 2019, accepted January 23, 2020.

[8] F. Marić, **O. Limoyo**, L. Petrovic, T. Ablett, I. Petrovic, and J. Kelly, "Fast manipulability maximization using continuous-time trajectory optimization," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS'19)*, Macau, China, Nov. 4–8 2019. [Online]. Available: https://arxiv.org/abs/1908.02963

[9] F. Marić, **O. Limoyo**, L. Petrovic, I. Petrovic, and J. Kelly, "Manipulability maximization using continuous-time gaussian processes," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS'18) Workshop Towards Robots that Exhibit Manipulation Intelligence*, Madrid, Spain, Oct. 1 2018. [Online]. Available: https://arxiv.org/abs/1803.09493

[10] **O. Limoyo**, T. Ablett, F. Marić, L. Volpatti, and J. Kelly, "Self-calibration of mobile manipulator kinematic and sensor extrinsic parameters through contact-based interaction," in *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA'18)*, Brisbane, Queensland, Australia, May 21–25 2018. [Online]. Available: https://arxiv.org/abs/1803.06406

Research & Teaching

Robotics & AI Research Intern, Samsung AI Centre Montreal S2022 - F2023
Visuotactile Manipulation, Supervisors: Dr. Francois Hogan and Prof. Gregory Dudek

AI Research Intern, Kindred S2019 - F2019
Learning to Scan and Sort, Supervisors: Dr. James Bergstra and Prof. Rupam Mahmood

Teaching Assistant, University of Toronto 2016 - Present

- **ROB501** - *Computer Vision for Robotics* (Fall 2017-2020)
- **AER521** - *Mobile Robotics and Perception* (Winter 2018)

Research Assistant, McGill - Centre for Intelligent Machines F2015 - S2016
Dynamic Balancing of a Pick-and-Place Robot, Supervisor: Prof. Jorge Angeles

Research Assistant, McGill - Biomedical Microsystems Laboratory F2014 - W2015
3D Printing of an Embedded Strain Gauge Sensor, Supervisor: Prof. Xinyu Liu,

Research Assistant, McGill - Biomechanics Laboratory S2012
Cyclical Test Frequency Dependence of Aortic Tissue, Supervisor: Prof. Rosaire Mongrain

Reviewing

IROS 2023, 2020, **ICRA** 2024, 2022, 2020, 2018, **AAAI** 2022, **RAM** 2022

Honors & Awards

Alexander Graham Bell Canada Graduate Scholarship, University of Toronto 2020-2023
Vector Institute Postgraduate Affiliate, University of Toronto 2020-2022
Ontario Graduate Scholarship, University of Toronto 2019
MIP President's Fund: Education Scholarship, MIP 2019
APSC GSEF Award, University of Toronto 2018
Ontario Graduate Scholarship, University of Toronto 2017
NSERC Industrial Undergraduate Student Research Award, McGill University 2015
Golden Key International Honour Society Invitation, McGill University 2012
Summer Undergraduate Research in Engineering Award, McGill University 2012

Volunteer Service

Self-Driving Car Autonomy Team Advisor, aUToronto F2017 - S2018
Lab Representative, Aerospace Students Association F2017 - S2018
Athletics Coordinator, Aerospace Students Association F2016 - F2017
Autonomous Underwater Vehicle Software Developer, McGill Robotics F2015 - F2016
Autonomous Underwater Vehicle Section Leader, McGill Robotics F2014 - S2015
National Conference Delegate Experience Member, EWB McGill Chapter F2014

Misc. Industry Experience

Customer Engineering Intern, Pratt and Whitney Canada, R&D S2015
Technical Coordinator, Mercedes Textiles S2014
Manufacturing Supervisor Intern, Pratt and Whitney Canada, Plant 1 F2013
Technical Coordinator, Mercedes Textiles S2013

Skills & Languages	**Systems:** Linux, Windows **Software:** PyTorch, PyBullet, Simulink, AutoDesk Inventor, Solidworks, Git **Languages & Frameworks:** Python, C/C++, ROS, Matlab, Fortran, VBA **Languages:** English (Native), Mauritian Creole (Native), French (Fluent)