Catherine Glossop

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EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY, Berkeley (August 2023 – Present)
ELECTRICAL ENGINEERING AND COMPUTER SCIENCE (EECS)
EECS Ph.D. Candidate
Advisor: Prof. Sergey Levine

UNIVERSITY OF TORONTO, Toronto (September 2018 – June 2023)
FACULTY OF ENGINEERING
BASc Engineering Science, Major in Robotics, Minor in Artificial Intelligence
Advisor: Prof. Tim Barfoot

RESEARCH EXPERIENCE

UNIVERSITY OF CALIFORNIA, BERKELEY
Graduate Student Researcher Berkeley (August 2022 – Present)
Advisor: Prof. Sergey Levine

- ***Current Research:*** Exploring techniques in annotating robot data with language by leveraging visual language model (VLM)-guidance and training flexible language-conditioned navigation policies on this data
- ***Research Interests:*** Lifelong learning for navigation and mobile manipulation platforms, open-set language conditioned control policies, and scaling up behavior cloning policies on diverse data across multiple embodiments and environments

UNIVERSITY OF TORONTO INSTITUTE FOR AEROSPACE STUDIES (UTIAS)
Undergraduate Research and Thesis Student Toronto (May 2022 – May 2023)
Advisor: Prof. Timothy Barfoot

- ***Thesis:*** *ANSRA: Automatic Non-Lambertian Surface and Reflection Annotation for Improved Indoor Robot Navigation* – Proposed and lead the design of a LiDAR-based automated glass and reflection segmentation pipeline and online detector for improved indoor navigation in LiDAR-based robotic systems.

VECTOR INSTITUTE
Applied Research Intern Toronto (January 2022 – May 2022)
Advisor: Amrit Krishnan and Prof. Angela Schoellig

- ***Project:*** *Characterising the Robustness of Reinforcement Learning for Continuous Control using Disturbance Injection* – Performed research in learned robot control methods that evaluated which reinforcement learning methods demonstrated inherent robustness to common disturbance types and the sensitivity of these methods to different environmental, observation, and action perturbations

PUBLICATIONS

[1] N. Hirose, C. Glossop, A. Sridhar, O. Mees, S. Levine, "LeLaN: Learning A Language-Conditioned Navigation Policy from In-the-Wild Videos," arXiv pre-print, 2024. [Online]. Available: (link available soon) (Accepted to Conference on Robot Learning (CoRL) 2024)

[2] J. Yang, C. Glossop et al. "Pushing the limits of cross-embodiment learning for manipulation and Navigation," *Robotics: Science and Systems XX*, Jul. 2024. doi:10.15607/rss.2024.xx.093 (Poster)

[3] A. Sridhar, D. Shah, **C. Glossop**, and S. Levine, "Nomad: Goal masked diffusion policies for navigation and exploration," *2024 IEEE International Conference on Robotics and Automation (ICRA)*, pp. 63–70, May 2024. doi:10.1109/icra57147.2024.10610665 **(Winner of ICRA 2024 Best Paper Award)**

[4] **C. R. Glossop**, J. Panerati, A. Krishnan, Z. Yuan, and A. P. Schoellig, "Characterising the Robustness of Reinforcement Learning for Continuous Control using Disturbance Injection," arXiv pre-print, 2022. [Online]. Available: https://arxiv.org/abs/2210.15199 **(2022 Conference on Neural Information Processing Systems (NeurIPS) DistShift and Trustworthy Embodied AI Workshops + Poster)**

AWARDS

International Conference on Robotics and Automation (ICRA) – Best Paper Award 2024 ($1,000 USD)

Natural Sciences and Engineering Research Council of Canada (NSERC) – Undergraduate Student Research Award (USRA) 2022 ($6000 + $3000 CAD lab contribution)

Natural Sciences and Engineering Research Council of Canada (NSERC) – Undergraduate Student Research Award (USRA) 2020 ($4500 + $2500 CAD lab contribution)

Engineering Science Research Opportunities Program (ESROP) – Summer International Experience Award 2019 ($2,000 CAD)

University of Toronto, Department of Engineering – Admissions Scholarship and Dean's Merit Award 2018 ($10,000 CAD)

TEACHING AND MENTORING EXPERIENCE

BERKELEY AI UNDERGRADUATE MENTORING

Mentor Berkeley (August 2023 – Present)

- Provided academic, research, and career advice to several undergraduate students in the Berkeley EECS program, including assistance with graduate school applications and statement revisions

WOMEN IN COMPUTER SCIENCE AND ENGINEERING (WICSE)

Board Member

- Hosting bi-weekly lunch socials with women-identifying graduate students in EECS
- Led a lab tour and demonstration for Girl Scouts of America at the annual WISCE x Girl Scouts Day 2024
- Helped facilitate a brunch social for women-identifying students the EECS PhD Visit Days 2024

PROFESSIONAL EXPERIENCE

ZEBRA TECHNOLOGIES

Robotics Software Engineering Intern Toronto, Canada (May 2021 – May 2022)

- Designed calibration software for the Fetch Robotics Freight100 warehouse robot and the EMA commercial robot RGB-D sensors, unblocking manufacturing and preventing onsite delays.
- Led two weeks of intensive on-site robot deployment in Scranton, PA, handling client interactions, performing data collections, supervising EMA runs, and collecting metrics for the business team to evaluate the performance.

LEADERSHIP EXPERIENCE

ROBOTICS FOR SPACE EXPLORATION (RSX) ROVER DESIGN TEAM

Software Lead Toronto, Canada (May 2020 – August 2023)

- Led 20+ engineering students in developing a software stack for an autonomous space rover.

- Led development of technical modules for SEEK and SEEK Jr., rover hackathons that engaged 100+ secondary school and first- and second-year university students in hands-on rover design.
- Placed 8th out of 17 teams at the Canadian International Rover *Challenge* (August 2023 in Drumheller, Alberta).

SKILLS

- **Programming Skills:** Python, C++, MatLab, Linux, Docker, Robot Operating System (ROS)
- **Languages:** English (Fluent), French (Proficient)