Cyrus Neary

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EXPERIENCE

The University of Texas at Austin - *Graduate Research Assistant*   September 2020 - Present
Studying the systematic incorporation of prior knowledge into reinforcement learning systems, and how such structured information may be used for the formal verification of said systems.

MDA Systems Ltd. - *Mission Systems Engineering Co-op*   May 2017 - August 2017
Contributed to the simulation and analysis of the control algorithms for the European Space Agency's (ESA) ExoMars 2022 rover. Communicated findings and recommendations to the ESA and other international Aerospace companies through a 100+ page technical engineering report.

MDA Systems Ltd. - *Research and Development Co-op*   May 2016 - December 2016
Developed and validated an image processing algorithm to improve object characterization in the presence of artifacts within synthetic aperture radar images. The algorithm provided a marked performance improvement over the technique previously implemented in company software.

D-Wave Systems Inc. - *Processor Development Co-op*   January 2015 - May 2015
Designed and executed physics experiments to improve the company's magnetic shielding techniques.

PUBLICATIONS

C. Neary, C. Verginis, M. Cubuktepe, and U. Topcu, *Verifiable and compositional reinforcement learning systems*, 2021. arXiv: `2106.05864` [`cs.LG`].

C. Neary, Z. Xu, B. Wu, and U. Topcu, "Reward machines for cooperative multi-agent reinforcement learning," in *Proceedings of the 20th International Conference on Autonomous Agents and MultiAgent Systems*, Richland, SC: International Foundation for Autonomous Agents and Multiagent Systems, 2021, pp. 934–942.

M. O. Karabag, **C. Neary**, and U. Topcu, "Smooth convex optimization using sub-zeroth-order oracles," *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 35, no. 5, pp. 3815–3822, May 2021.

EDUCATION

The University of Texas at Austin   September 2018 - Present
PhD in Computational Science, Engineering, and Mathematics   *Austin, TX*
PhD Advisor: Ufuk Topcu | Member of the Autonomous Systems Group

The University of Texas at Austin   September 2018 - May 2021
Master of Science in Computational Science, Engineering, and Mathematics   *Austin, TX*
Cumulative GPA Over 39 Credits – 4.00

The University of British Columbia   September 2013 - May 2018
Bachelor of Applied Science in Engineering Physics, Minor in Honours Mathematics   *Vancouver, BC*
Cumulative GPA Over 177 Credits – 91.4% | Co-operative Education Program | Graduated with Distinction

FELLOWSHIPS, AWARDS, AND HONORS

International Conference on Autonomous Agents and Multiagent Systems Student Scholarship	2021
National Initiative for Modeling and Simulation Graduate Research Fellowship	2019
The University of Texas at Austin Graduate Recruitment Fellowship	2018
Carl and Elsie Halterman Scholarship	2018
The University of British Columbia Dean's Honor List	2018, 2017, 2016, 2014
The University of British Columbia Trek Excellence Scholarship	2017, 2016, 2014
Captain C.Y. Wu Scholarship	2017, 2016
MDA Co-op Scholarship	2016
NSERC Industrial Undergraduate Student Research Award	2016, 2015
The University of British Columbia Chancellor's Scholar	2013