

NICHOLAS E. CORRADO

✉ ncorrado@wisc.edu

☎ (412) 417-1383

🌐 nicholascorrado.github.io

EDUCATION

University of Wisconsin – Madison, Madison, WI

Present

Ph.D., Computer Sciences

Research Interests: reinforcement learning, data collection, robotics

Advisor: [Josiah Hanna](#)

University of Pittsburgh, Pittsburgh, PA

2019

B.S. in Physics, B.S. in Mathematics, Minor in Computer Science

Thesis: [A Search for \$W_{bJ}\$ in Decays of \$\Upsilon\(5S\)\$: An Analysis Design Study](#)

Advisor: [Vladimir Savinov](#)

EXPERIENCE

University of Wisconsin – Madison, *Graduate Research Assistant* ○ Madison, WI Jan. 2021 – Present

Advisor: [Josiah Hanna](#)

- ▶ My research focuses on data collection and data quality for reinforcement learning.

Amazon, *Applied Scientist Intern* ○ Palo Alto, CA July 2024 – Nov. 2024

- ▶ Multi-objective alignment for LLMs with the [Rufus Team](#)

Sandia National Laboratories, *Graduate Research Intern* ○ Albuquerque, NM (Remote) May 2021 – Nov. 2023

Advisor: [Drew Levin](#)

- ▶ Deep reinforcement learning for power systems management via distributed energy resource (DER) control [[C3](#)].
- ▶ From May 2022 - Nov 2023, I served as a consultant for reinforcement learning projects.

University of Wisconsin – Madison, *Graduate Research Assistant* ○ Madison, WI Sept. 2019 – Sept. 2020

Advisor: [Jignesh Patel](#)

- ▶ Built the query execution and storage engines of [Hustle](#), a scalable data platform built on top of Apache Arrow.
- ▶ Designed a variant of the Lookahead Information Passing (LIP) query execution strategy with improved robustness in dynamic data environments and implemented it in Hustle.

University of Pittsburgh, *Undergraduate Research Assistant* ○ Pittsburgh, PA Oct. 2016 - Aug. 2019

Advisor: [Vladimir Savinov](#)

- ▶ Designed and optimized the first search for new hadronic W_{bJ} states in data collected by the Belle experiment. [[thesis](#)]
- ▶ Created tools to monitor TOP Level-1 trigger performance for the Belle-II experiment.

PAPERS

Manuscripts Under Review

[M1] **Nicholas E. Corrado** and Josiah P. Hanna. [On-Policy Policy Gradient Reinforcement Learning Without On-Policy Sampling](#). Submitted. Feb. 2024. arXiv: 2311.08290. [[paper](#)]

Conference Publications

[C1] **Nicholas E. Corrado**, Yuxiao Qu, John U. Balis, Adam Labiosa, and Josiah P. Hanna. [Guided Data Augmentation for Offline Reinforcement Learning and Imitation Learning](#). In *Proceedings of the Reinforcement Learning Conference (RLC)*. [[paper](#)] [[video](#)]

[C2] **Nicholas E. Corrado** and Josiah P. Hanna. [Understanding when Dynamics-Invariant Data Augmentations Benefit Model-Free Reinforcement Learning Updates](#). In *Proceedings of the International Conference on Learning Representations (ICLR)*, May 2024. [[paper](#)]

[C3] **Nicholas E. Corrado**, Michael Livesay, Jay Johnson, and Drew Levin. [Deep Reinforcement Learning for Distribution Power System Cyber-Resilience via Distributed Energy Resource Control](#). In *IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (IEEE SmartGridComm)*, 2023. [[paper](#)]

[C4] **Nicholas E. Corrado**, Yuxiao Qu, and Josiah P. Hanna. [Simulation-Acquired Latent Action Spaces for Dynamics Generalization](#). In *Proceedings of the 1st Conference on Lifelong Learning Agents (CoLLAs)*, 2022. [[paper](#)] [[video](#)] [[website](#)]

Technical Reports.....

[T1] **Nicholas E. Corrado**, Michael Livesay, Tyson Bailey, and Drew Levin. Reinforcement Learning for Automatic Generation Control using a Kuramoto-like Model. 2023.

[T2] **Nicholas E. Corrado** and Vladimir Savinov. Search for Decay $\Upsilon(5S) \rightarrow \gamma W_{bJ}$. *Belle Collaboration*, Belle Note 1522, 2019. [\[paper\]](#)

[T3] **Nicholas Corrado** & Vladimir Savinov. Search for $\Upsilon(5S) \rightarrow \gamma W_{bJ}$. In *American Physical Society (APS) Meeting*, 2018. [\[abstract & slides\]](#)

HONORS & AWARDS

▶ Top Reviewer Award, NeurIPS 2024 (Top 8%)	2024
▶ Sandia Employee Recognition Award . Awarded to < 10% of the Sandia workforce	2023
▶ UW-Madison CS Department Scholarship (\$3000) . Awarded to top graduate applicants.	2019
▶ John O. Blumberg Memorial Scholarship (\$1000) . Awarded to the top math major.	2019
▶ Pennsylvania Space Grant Consortium Scholarship (third time, \$1500). Research funding.	2019
▶ Emil Sanielevici Scholarship (\$4000). Research funding.	2018
▶ Pennsylvania Space Grant Consortium Scholarship (second time, \$1500). Research funding.	2018
▶ J&M Bigos Memorial Scholarship (\$10,000). Awarded for academic excellence.	2018
▶ Sigma Pi Sigma Physics Honor Society	2018
▶ American Physical Society DPF Travel Award (\$200)	2017
▶ Peter F.M. Koehler Award (\$500) . Awarded to the top physics major.	2017
▶ Brackenridge Summer Research Fellowship (\$3500). Research funding.	2017.
▶ Rebecca Dytman Scholarship (\$10,000). Awarded for academic excellence in physics and astronomy.	2017
▶ Pennsylvania Space Grant Consortium Scholarship (first time, \$1500). Research funding.	2017

TALKS

▶ On-Policy Policy Gradient Reinforcement Learning Without On-Policy Sampling University of Edinburgh RL Reading Group [video]	2023
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ADVISING

▶ Nora Tseng (Undergraduate, University of Wisconsin-Madison)	2024
▶ Yuxiao Qu (Undergraduate, University of Wisconsin-Madison)	2021-2023
Current Position: PhD @ Carnegie Mellon University.	

TEACHING EXPERIENCE

University of Wisconsin–Madison	
▶ Research Mentor Program (Part of the Delta Program)	Fall 2023
▶ Teaching Assistant for <i>Mathematical Foundations of Machine Learning (CS 761)</i>	Fall 2021
▶ Head Teaching Assistant for <i>Intro to Computer Systems (CS 354)</i>	Fall 2021
▶ Teaching Assistant for <i>Problem Solving for Engineers (CS 310)</i>	Spring 2021
▶ Teaching Assistant for <i>Discrete Mathematics (CS 240)</i>	Fall 2020
University of Pittsburgh	
▶ Teaching Assistant for <i>Quantum Mechanics (PHYS 1370)</i>	Fall 2018

SERVICE

▶ Graduate Student Mentor for Fall 2025 graduate cohort (University of Wisconsin-Madison)	Fall 2025
▶ Graduate Student Mentor, Wisconsin Science and Computing Emerging Research Stars (WISCERS)	2024
▶ Invited Panelist, Demystifying Graduate School (University of Wisconsin-Madison)	2024
▶ Sandia Machine Learning and Deep Learning (MLDL) Workshop . Designed a reinforcement learning competition.	2022

Reviewing	
▶ Reviewer, NeurIPS	2023, 2024
▶ Reviewer, ICML	2024, 2025
▶ Reviewer, ICLR	2024, 2025
▶ Senior Reviewer, RLC (Reinforcement Learning Conference)	2024
▶ Program Committee, AAAI	2024, 2025
▶ Reviewer, RA-L (Robotics and Automation Letters)	2024
▶ Reviewer, ICRA	2024

MEDIA

- ▶ [Training a dog and training a robot aren't so different](#)

2023

TECHNICAL SKILLS

Machine Learning & Data Science: Python ◦ PyTorch ◦ NumPy ◦ Pandas ◦ Matplotlib ◦ Jupyter ◦ Anaconda
Software Engineering: C++ ◦ C ◦ Git ◦ Bash