

Branton DeMoss

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SUMMARY	Working at the intersection of reinforcement learning, world modeling, and planning to build autonomous agents that can think ahead to act in the world.	
EDUCATION	<i>DPhil Candidate in Artificial Intelligence</i> University of Oxford	2021-
	<i>BA Mathematics and Physics</i> University of Colorado Boulder	2018
EXPERIENCE	Oxford Robotics Institute <i>Graduate Student Researcher</i> <ul style="list-style-type: none">Research in reinforcement learning, world models, imitation learning, and complexity.	2021-
	The Collaboratory <i>Co-founder; Chief Science Officer</i> <ul style="list-style-type: none">Deep learning on language and graphs for knowledge curation.Led product strategy, design, and ML R&D.	2020-23
	Comma.ai <i>ML Research Intern</i> <ul style="list-style-type: none">Reinforcement learning for self-driving cars.	2020
	Front Range Geosciences <i>Machine Learning Engineer</i> <ul style="list-style-type: none">Developed computer vision system for seismic data.	2017-20
	Center for Theory of Quantum Matter <i>Research Assistant</i> <ul style="list-style-type: none">Studied quantum many-body localization under Floquet conditions.	2017
	Mathematics Department, CU Boulder <i>Research Assistant</i> <ul style="list-style-type: none">Investigated knot-theoretic properties of topological quantum field theories.	2016
	High Energy Particle Physics Group, Physics Department, CU Boulder <i>Research Assistant</i> <ul style="list-style-type: none">Monte Carlo simulations for the Deep Underground Neutrino Experiment.	2014-15
PUBLICATIONS	<i>Understanding Grokking by Compression</i> Preparing for submission	2024

	<i>These New Agents, This New Garden</i> To appear in Palladium Magazine	2023
	<i>DITTO: Offline Imitation Learning with World Models</i> Under submission	2023
	<i>Combining physics and deep learning to automatically pick first breaks in the Permian Basin</i> First International Meeting for Applied Geoscience & Energy	2021
	<i>Ein Liebesbrief an KataGo</i> Deutsche Go Zeitung, Ausgabe 4/2020	2020
	<i>Love Letter to KataGo, or: Go AI Past, Present, and Future</i> American Go E-Journal	2020
	<i>DeepTrace: A breakthrough application of deep learning to automate first break picking</i> SEG 2019 Lenovo Thought Leadership Series	2019
	<i>Topology and Knot Theory</i> Course notes for CU Boulder special topics course: “ <i>Topology, Knot Theory, and their applications in Physics and Chemistry</i> ”	2016
	<i>Secondary Particle Showers from Hadron Absorber Interactions</i> Deep Underground Neutrino Experiment (DUNE) Collaboration Documents	2016
TEACHING	<i>Rocket League Behaviour Cloning from Unlabelled Data</i> Supervised Master’s Thesis, Oxford	2023
	<i>Topics in Reinforcement Learning</i> Oxford, MT 23	2023
	<i>Physics of Information and Complexity</i> Oxford, HT 24	2024
	<i>Philosophy of Emergence</i> Oxford, HT 24	2024
AWARDS	<i>Research Studentship</i> <i>Stribic-Martin Scholarship</i> <i>UROP Fellowship</i> <i>Dawkins Fund Award</i> <i>Gilman Scholarship</i> <i>Esteemed Scholar Award</i>	Oxford, 2021 Boulder, 2017 Boulder, 2017 Oxford, 2016 Oxford, 2016 Boulder, 2014