Branton DeMoss

CONTACT

bdemoss@robots.ox.ac.uk
www.brantondemoss.com
+44 (0)7926 576225

St Edmund Hall
Queen's Lane, Oxford
OX1 4AR, UK

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

DPhil Candidate in Artificial Intelligence　　　　　　　　　　　　　　2021-
University of Oxford

BA Mathematics and Physics　　　　　　　　　　　　　　　　　　　2018
University of Colorado Boulder

EXPERIENCE

Oxford Robotics Institute　　　　　　　　　　　　　　　　　　　　2021-
Graduate Student Researcher
- Research in reinforcement learning, world modeling, and planning.

The Collaboratory　　　　　　　　　　　　　　　　　　　　　　2020-
Co-founder; Chief Science Officer
- Deep learning on language and graphs for scientific knowledge curation.
- Led product strategy, design, and ML R&D.
- Admitted to Techstars class of 2021 ($< 1\%$ applicants admitted).
- Raised $>\$2M$ (as of early 2022).

Comma.ai　　　　　　　　　　　　　　　　　　　　　　　　　2020
ML Research Intern
- Reinforcement learning for self-driving cars.

Front Range Geosciences　　　　　　　　　　　　　　　　　　　2017-20
Machine Learning Engineer
- Developed and sold deep-learning based first break picking system.

Center for Theory of Quantum Matter　　　　　　　　　　　　　　2017
Research Assistant
- Studied quantum many-body localization under Floquet conditions.

Mathematics Department, CU Boulder　　　　　　　　　　　　　　2016
Research Assistant
- Investigated knot-theoretic properties of topological quantum field theories.

High Enery Particle Physics Group, Physics Department, CU Boulder　　2014-15
Research Assistant
- Monte Carlo simulations for the Deep Underground Neutrino Experiment.

PUBLICATIONS　*DITTO: Offline Imitation Learning with World Models*　　2022
In submission to ICLR 2023

	Combining physics and deep learning to automatically	2021
	pick first breaks in the Permian Basin	
	First International Meeting for Applied Geoscience & Energy	
	Ein Liebesbrief an KataGo	2020
	Deutsche Go Zeitung, Ausgabe 4/2020	
	Love Letter to KataGo, or:	2020
	Go AI Past, Present, and Future	
	American Go E-Journal	
	DeepTrace: A breakthrough application of deep learning	2019
	to automate first break picking	
	SEG 2019 Lenovo Thought Leadership Series	
	Topology and Knot Theory	2016
	Course notes for CU Boulder special topics course:	
	"Topology, Knot Theory, and their applications in Physics and Chemistry"	
	Secondary Particle Showers from Hadron Absorber Interactions	2016
	Deep Underground Neutrino Experiment (DUNE) Collaboration Documents	

AWARDS	*Research Studentship*	Oxford, 2021
	Stribic-Martin Scholarship	Boulder, 2017
	UROP Fellowship	Boulder, 2017
	Dawkins Fund Award	Oxford, 2016
	Gilman Scholarship	Oxford, 2016
	Esteemed Scholar Award	Boulder, 2014