Uljad Berdica

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Education

University of Oxford Sep 2022 – Sep 2026
PhD with CDT-Autonomous Intelligent Machines and Systems, Rhodes Scholar 2022 Oxford, UK

New York University (NYU) Aug 2018 – May 2022
Bachelor of Science in Electrical Engineering, Magna Cum Laude, University Honors USA, UAE, PRC

Research Work

AI Research Associate for Reinforcement Learning and Optimization Jun 2025 - Oct O2025
Research Scientist in the Optimization Team at JP Morgan AI Research London, UK

- **Inspect** datasets of transactions and prices from various statistical perspectives
- **Model** trading problems to design and implement production-ready high-performance solutions
- **Develop** benchmarks and methods for bandit algorithms using natural language context and LLMs as stochastic processes

Unified Offline Reinforcement Learning - JAX Library Aug 2024 – Apr 2025
PhD Researcher at Foerster Lab for AI Research Oxford, UK

- **Implemented** SOTA offline RL algorithms in a unified framework in JAX
- **Clean** and consistent algorithmic implementation to track all the relevant tricks required for each method
- **Evaluation** of algorithms using a multi-armed bandit to estimate the online interaction budget required to find the best policy

Diverse Generation for Large Language Models Jul 2024 – June 2025
Researcher at Foerster Lab for AI Research and BBC Research and Development Oxford, UK

- **Curated** dataset from published user activity in large social networks and used to fine-tune LLMS
- **Trained** large models using three levels of tensor parallelism on multiple machines
- **Implemented** different clustering algorithms to evaluate the quality and the semantic entropy of the generations

Towards Training Generalist Agents Through an Ensemble of World Models Jan 2023 – Oct 2024
PhD Researcher at Foerster Lab for AI Research Oxford, UK

- **Trained** 100s of dynamics models in parallel to use as levels to create a training curriculum
- **Implemented** a recurrent actor-critic network and a suite of algorithms to train on top of the dynamics models, similar to RL^2
- **Tested** on the real environment to verify transfer and **derived** lower bounds for the required data density

Place Recognition in Unstructured Environments May 2023 – Jul 2023
PhD Researcher at Oxford Robotics Institute Oxford, UK

- **Implemented** multiple point cloud transforms to test state-of-the-art place recognition networks
- **Utilized** large network backbones in PyTorch and applied them to in-house datasets for SLAM problems

Work and Teaching

Research Mentor at Lumiere Education Jun 2023 – Sep 2024
IT Assistant at Wadham College Jan 2023 – Dec 2024
Executive Team member at the Rhodes Trust Incubator Oct 2022 – Jul 2023

Selected Publications and Conferences

Leading or Co-First Author:
A Clean Slate for Offline RL **NeurIPS 2025 Main Track (Oral, top 0.38%)** (2025)
Web Agents at the Edge of Learnability Inside World Models **Under Review** (2025)
Intent Factored Generation: Unleashing the Diversity in Your Language Model **ICML 2025 Workshop on Exploration in AI Today** (2025)
Robust Learning via Adversarial World Models **NeurIPS Workshops Open World Models and Adversarial ML** (2024)
Towards Reinforcement Learning Controllers for Soft Robots using Learned Environments" **IEEE Conference on Soft Robotics** (2024)

Middle Author:
Asynchronous Quadrature-phase Undersampling Technique for Wide-frequency Impedance Measurement **IEEE Transactions on Instrumentation and Measurement** (2025)
SOReL and TOReL: Two Methods for Fully Offline Reinforcement Learning **Arxiv** and **ICLR 2026 Under Review** (2025)
DARE: The Deep Adaptive Regulator for Control of Uncertain Continuous-Time Systems **ICML Workshop on RL and Controls** (2024)

Awards

First Place in the G-Research Quant Challenge at Oxford 2024
Best Public Research Engagement Project with a Computer Vision inspired interactive game 2023
Rhodes Scholarship and EPSRC Funding Doctoral Training in AI and Robotics 2022
Most Technically Advanced Demo in the Social Robotics Symposium 2019
Regional Distinction in American Math Comp. and 6 National Olympiad wins including Physics and Chemistry 2017 - 2018