

Gersi Doko

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Education

University of New Hampshire

Doctor of Philosophy (PhD) in Computer Science

Expected May 2026

Durham, New Hampshire

- **Relevant Coursework:** Advanced Algorithms in Machine Learning, Deep-Q Learning, Reinforcement Learning, Risk Sensitive Decision-Making, LLM-Driven Optimization, Foundation Model Theory

University of New Hampshire

Bachelor of Science in Computer Science **Summa Cum Laude** (GPA: 3.98 / 4.00)

Completed May 2022

Durham, New Hampshire

- **Relevant Coursework:** Data Structures and Algorithms (C++), Prob & Stat in CS (Python), Intro to CS II (C++), Linear Algebra w/Computational Applications (Python), Reinforcement Learning (Python), Neural Networks (Python)

Publications

ROIL: Robust Offline Imitation Learning | First publication accepted to RLJ (Reinforcement Learning Journal)

- Developed new robust method for training agents from data using offline imitation learning, surpassing previous work by using our insight into consistent policy sets.
- Improved on all existing IRL methods by not relying on samples to come from the same state distribution as the expert.

Deep Reinforcement Learning based Optimization of an Island Energy-Water Microgrid System

Interdisciplinary work with UNH Civil Engineering Dept.

- Developed a deep reinforcement learning model to optimize the energy and water usage of a microgrid.
- Real world implementation of RL which resulted in a 20% increase in island sustainability.

LLM Thematic Analysis for Agriculture Research

Preprint

- Joint work with UNH Agriculture Dept. to develop a thematic analysis pipeline for categorizing research laboratories across the United States.

Experience

UNH RL² Lab

Research Assistant

June 2022 – Present

Durham, NH

- Studying under Dr. Marek Petrik in the RL² Lab.
- Researching robust solutions to risk-averse decision-making problems.
- Efficiently implementing and testing RL algorithms in Julia.

Liberty Mutual

Software Engineer

June 2021 – June 2022

Dover, NH

- Fostered code reuse by creating a shared Python library, reducing code duplication by more than 80%.
- Optimized new data storage and retrieval system using AWS S3, reducing on-premise storage costs by 25%.

UNH Interoperability Lab

Senior Test Engineer

June 2018 – June 2021

Durham, NH

- Reviewed and developed test media for IEEE Standard 802.3, improving test coverage for back-plane and Base-T.

Technical Skills

Concepts: Bandits, Partial monitoring, Reinforcement learning, Inverse reinforcement learning, Risk sensitive machine learning, Transformers, Attention, LLMs

Research Interests: Risk sensitive optimization, Optimal decision-making, Human-LLM Collaboration

Current Work: Deep risk sensitive reinforcement learning, Robust RL, LLM Applications

Achievements

- Reviewer for the **Reinforcement Learning Journal**
- Presented at the *first* **RLC (Reinforcement Learning Conference)** in 2024
- Received the **Dean's Award** for Academic Excellence in Computer Science
- Awarded the **President's Scholarship** for academic achievement and leadership.
- Graduated **summa cum laude** from the University of New Hampshire
- Presented at the **2022 UNH Undergraduate Research Conference**