KEVIN ROICE

kevinroice@outlook.com
kevroi.github.io

RESEARCH INTERESTS

Reinforcement Learning · Planning · Continual Learning

EDUCATION

University of Alberta	**2022-2024 MASTER OF SCIENCE IN STATISTICAL MACHINE LEARNING**

GPA: 4.00/4.00
Supervisors: Prof. Adam White, Prof. Martha White
Alberta Innovates Scholar ($26,000). Awarded annually to 1 grad. student in the province.
Thesis

Durham University	**2019-2022 BACHELOR OF SCIENCE IN PHYSICS AND COMPUTER SCIENCE**

First Class Joint Honours
Ranked 1st/442 in Calculus, and top 5% in Linear Algebra and Theoretical Physics.
Thesis

PUBLICATIONS

JMLR (17% acceptance)	**2024 GOAL-SPACE PLANNING WITH SUBGOAL MODELS**

Chunlok Lo=, Kevin Roice=, Parham Mohammad Panahi=, Scott M. Jordan, Adam White, Gabor Mihucz, Farzane Aminmansour, Martha White
Paper

SIGGRAPH (11% acceptance)	**2022 RENDERING HAPTIC TORQUES FOR VIRTUAL REALITY**

Kevin Roice and George Alex Koulieris
Selected for the Art Papers Roundtable session (in the top 3/66 posters).
Paper | Code

EXPERIENCE

Alberta Machine Intelligence Institute	**2024 - MACHINE LEARNING RESIDENT**

Researching and deploying planning, scheduling and graph-based resource allocation for facilities across Edmonton.

University of Alberta	**2023 - 2024 GRADUATE RESEARCH ASSISTANT FELLOW**

• Developed & studied an abstract planning alg. that reward-shapes with a model.
• Worked on subgoal discovery & Bayesian methods for online hyperparameter tuning.

Finbourne Technology	**2022 SOFTWARE ENGINEER INTERN**

Improved API and automated internal statistical analyses of the platform performance.

Durham University	**2022 UNDERGRADUATE RESEARCHER**

• Helped PhD students develop & evaluate predictive models for COVID cases (Bi-LSTM).
• Investigated Imitation & Inverse reinforcement learning to improve education platforms.

University of Cambridge	**2021 RESEARCH INTERN**

• Found black hole candidates from their anomalous effects on nearby star motions.
• Measured motions at multiple timescales, predicted black holes w/ Gauss. mix. Models.

Durham University	**2021 RESEARCH INTERN**

Designed an experiment control system for manipulating and scheduling experiments on ultracold atoms.

TEACHING

Massachusetts Institute of Technology

2023   TEACHING ASSISTANT

Provided guidance and technical assistance to a group of undergraduate fellows on a sea-bed surface reconstruction project with the Seattle Aquarium.
BLOG

University of Alberta

2022-2023   TEACHING ASSISTANT

Helped deliver and developed coding assignments for CMPUT 101 Introduction to Computing, and CMPUT 267 Basics of Machine Learning.

Google Developer Student Club

2021-2022   MACHINE LEARNING FACILITATOR

Trained hundreds of undergraduates, postgraduates and faculty members through a public lecture series to teach beginners and improve their career prospects.
SAMPLE LECTURE

Durham University

2021-2022   TEACHING ASSISTANT

Led lab sessions for the penultimate year Artificial Intelligence course. Taught the units on Search, Supervised Learning, and Bias in AI.

TALKS

ICAPS

2024   A NEW VIEW ON PLANNING IN ONLINE RL

Selected for Oral in the Planning and Reinforcement Learning Workshop, at the *International Conference on Automated Planning and Scheduling*.

University of Alberta

2024   GOAL-SPACE PLANNING WITH REWARD SHAPING

Public MSc Seminar and Thesis Defence.

OTHER INFORMATION

Awards and Achievements

2024 · Inventures Conference Student Grant (CA $ 1,300)

2023 · Alberta Innovates Graduate Student Scholarship (CA $26,000)

2023 · Cornell, Maryland, Max Planck Pre-Doctoral Summer School (CA $2,000)

2023 · Google Computer Science Research Mentorship Program

2022 · Collingwood 1972 Club Undergraduate Grant (CA $2,600)

2022 · Eileen Corrigan Award for Contributions to the Digital Arts (CA $400)

2021 · University of Cambridge David & Bridget Jacob Summer Scholarship (CA $1,100)

2021 · Collingwood College Undergraduate Research Grant (CA $3,400)

2021 · Durham Outstanding Achievement Award in the Natural Sciences

2020 · Durham Outstanding Achievement Award in Physics

2020 · British Education Awards National Finalist

2018 · Silver in the UK Mathematics Challenge

2018 · Bronze in the British Physics Olympiad

Service and Outreach

Reviewer · International Conference on Learning Representations 2024, 2025

Reviewer · Reinforcement Learning Conference 2024

Reviewer · Conference on Lifelong Learning Agents 2023

Reviewer · IEEE Transactions on Pattern Analysis and Machine Intelligence 2023

Contributor · DeepMind C-Suite and sklearn Python libraries

Lab Developer · Coded Python Notebooks to help professors teach undergrad. courses

Project · ITERRA: Open-source Physics Simulations for Undergraduate Researchers

Panellist · Hackathon4Schools 2020