

LEONARD HINCKELDEY

PhD Candidate | Multi-Agent Systems | Reinforcement Learning | Robotics | World Modelling

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🐙 [GitHub](#)

SUMMARY

PhD candidate in AI and Robotics at the University of Edinburgh, researching cooperative multi-agent reinforcement learning motivated by real-world embodied applications. I'm particularly interested in ad hoc teamwork and zero-shot coordination, which enable autonomous agents to cooperate with unseen human and robot partners. My current research explores how world models can support planning and coordination in multi-agent settings. My broader interests include integrating world models with VLAs and LLMs for collaborative robotics.

EDUCATION

The University of Edinburgh

01/2024 - 09/2027 (*expected*)

PhD in AI and Robotics

Edinburgh, UK

- Researching JEPA world models that learn representations of the environment and other agents to support multi-agent planning in latent space.
- Designed and built *Assistax*, a JAX/MJX-accelerated benchmark for multi-agent reinforcement learning and ad hoc teamwork in assistive robotics (RLC 2026).
- Contributed to developing information-theoretic metrics to evaluate how agents use observations and memory to coordinate in cooperative reinforcement learning benchmarks (AAMAS 2026).
- Supervised by Subramanian Ramamoorthy and Fan Zhang (Honda Research Institute Europe).

London School of Economics and Political Science

09/2022 - 09/2023

MSc Applied Social Data Science

London, UK

- MSc dissertation: RL post-training a small language model for generating Shakespearean-style lipogrammatic text. [\[code\]](#)
- Focused my studies on Reinforcement Learning, Natural Language Processing, Deep Learning and Causal Inference.

SOAS University of London

10/2019 - 07/2022

BSc Economics

London, UK

- I specialised in Econometrics, Causal Inference and Development Economics.

PUBLICATIONS

- [1] **Leonard Hinckeldey**^{*}, Elliot Fosong^{*}, Elle Miller, Rimvydas Rubavicius, Trevor McInroe, Fan Zhang, Patricia Wollstadt, Stefano V. Albrecht, Subramanian Ramamoorthy (2026). *Assistax: A Multi-Agent Hardware-Accelerated Reinforcement Learning Benchmark for Assistive Robotics*. Reinforcement Learning Journal. **Outstanding Paper Award (RLC 2026)**. [\[Paper\]](#), [\[Website\]](#), [\[Code\]](#).
- [2] Kale-ab Abebe Tessera, **Leonard Hinckeldey**, Riccardo Zamboni, David Abel, Amos Storkey (2026). *Probing Dec-POMDP Reasoning in Cooperative MARL*. Proceedings of the International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS). **Oral presentation**. [\[Paper\]](#), [\[Website\]](#), [\[Code\]](#).

^{*} *Equal contribution.*

AWARDS & SCHOLARSHIPS

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| 2026 | Outstanding Paper Award – Reinforcement Learning Conference. <i>Tooling, Environments, and Evaluation for Reinforcement Learning</i> . Received for our Assistax paper. |
| 2023 | UKRI CASE PhD Studentship in partnership with the Honda Research Institute Europe (HRI-EU). |

EXPERIENCE

Research Assistant
Part-time, *The London School of Economics and Political Science*

08/2023 - 03/2024
London, UK

- Worked on the [GENIAL](#) project studying the impact of LLMs on undergraduate teaching.
- Automated a data collection pipeline for ChatGPT conversations of 150+ student participants.
- Analysed and visualised quantitative text data based on chat histories.

Business Intelligence Analyst
Internship, *Northern Data (now Quake AI)*

06/2021 - 09/2021
Frankfurt, Germany

- Implemented the first dashboard of the company BI tool, showcasing data centre KPIs; now used by the operations team.
- Designed the first central SQL database for operations-relevant internal data.

Impact Analyst
Internship, *LGT Venture Philanthropy*

07/2018 - 12/2018
Zürich, Switzerland

- Impact measurement for a broad range of grants active in Africa and South East Asia.
- Contributed to designing our first impact dashboard (iLEVEL) to track various KPIs.

TEACHING & VOLUNTEERING

Robot and Reinforcement Learning
Graduate Teaching Assistant, *School of Informatics, University of Edinburgh*

09/2025 - Present
Edinburgh, UK

- Responsible for creating and teaching tutorials on Deep Reinforcement Learning; Behaviour and Imitation Learning; and Vision-Language-Action Models.
- Designed and marked coursework on Deep RL for continuous control.

RL & Agents Reading Group
Co-Host and Organiser.

09/2025 - Present

- Invite and host guest speakers.

SKILLS & HOBBIES

Research	Reinforcement Learning, Multi-Agent RL, Machine Learning, Deep Learning, JEPA, Agent Evaluations, Benchmark Design.
Programming	Python, R, Stata, SQL.
Tools	JAX, PyTorch, MuJoCo, Isaac Sim, TensorFlow, Git, Slurm, Kubernetes, Docker, distributed training (GPU/TPU), Ray.
Languages	German (native), English (native), Spanish (B1).
Hobbies	Tennis, Photography, Backcountry Skiing.