Hector Kohler

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github

Education

2022-2025*	**Ph.D.**, Interpretable and Reproducible Reinforcement Learning (RL), Université de Lille
2020-22	**M.Sc.**, Artificial Intelligence *Excellence Track*, Sorbonne Université
2016-20	**B.Sc.**, Computer Science & Mathematics, University of Manchester

Research Experience

2025	Visiting Researcher designing new RL algorithms and evaluation tools, RLAI Lab, University of Alberta, (Advisor: Dr. A. White)
2021	Research Assistant working on unmanned underwater drone control, Lab-STICC, ENSTA, (Advisors: Pr. B. Clement and G. Le Chenadec)
2020-2021	Research Assistant working on Reinforcement Learning, ISIR, Sorbonne Université, (Advisor: Pr. O. Sigaud)

Awards & Honors

2025	Université de Lille International Mobility Grant (1650 €)
2022	AI_PhD Lille (Competitive admission to fully funded Ph.D. program)
2022	Sorbonne Université Computer Science Excellence diploma (1̃0/400 students)

Publications

G Google Scholar

Journal Articles

J1. Mathieu, T., Medeiros Centa, M., Della Vecchia, R., **Kohler, Hector**, Shilova, A., Maillard Maillard, O.-A. & Preux, P. AdaStop: adaptive statistical testing for sound comparisons of Deep RL agents. *Transactions on Machine Learning Research* (2024).

J2. **Kohler, Hector**, Clement, B., Chaffre, T. & Le Chenadec, G. PID Tuning using Cross-Entropy Deep Learning: a Lyapunov Stability Analysis. *IFAC-PapersOnLine* (2022).

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*Expected.

Peer-reviewed Conference Proceedings

C1. **Kohler, Hector**, Akrour, R. & Preux, P. *Breiman meets Bellman: Non-Greedy Decision Trees with MDPs* in *Proceedings of the 31st ACM SIGKDD Conference on Knowledge Discovery and Data Mining* (2025).

Posters

P1. **Kohler, Hector**, Delfosse, Q., Radji, W., Akrour, R. & Preux, P. *Evaluating Interpretable Reinforcement Learning by Distilling Policies into Programs* Workshop on Programmatic Reinforcement Learning (Edmonton, Canada). 2025.

P2. **Kohler, Hector**, Delfosse, Q., Akrour, R., Kersting, K. & Preux, P. *Interpretable and editable programmatic tree policies for reinforcement learning* 17th European Workshop on Reinforcement Learning (Toulouse, France). 2024.

Tools & Software

Reinforcement Learning

Core contributor to `rlberry`: PyTorch implementation of deep reinforcement learning agents. Compatibility with `stable-baselines3`. Advanced training analysis with robust stats. Usage of git for development and continuous integration. Organized hackhatons.

Maintainer of a set of fully-transparent control policies for games and robots: inspired by the `stable-baselines3-zoo` and the `gymnasium` API.

designed statistical test for the reliable and cheap comparison and benchmarking of RL.

Supervised Learning

Maintainer of my own `scikit-learn` estimator: I developed DPDT, a decision tree induction algorithm which is SOTA for tabular problems.

Teaching

Ecole Normale Supérieure de Cachan (MVA)

2024   Assistant Instructor, Reinforcement Learning (6 hours)

Centrale Lille

2024   Assistant Instructor, Sequential Decision Making (6 hours)

Université de Lille

2023-2024   Assistant Instructor, Algorithms and Programming (60 hours)
2022   Assistant Instructor, Reinforcement Learning (24 hours)

Academic Advising

Graduate

2023	Veronika Shilova, Ecole Polytechnique, Entropy-regularized RL
2023	Quentin Dinel, Université de Lille, Image Segmentation
2023	Mathieu Medeng Essia, Centrale Lille, Imitation Learning
2023	Antonio Al-Makdissi, Centrale Lille, Object-centric Atari Learning
2023	Gabriele Maggioni, Centrale Lille, Model-Based Reinforcement Learning

Academic Service

Conference Reviewer

2025	ICLR, RLC, AISTATS, ICML
2024	NeurIPS

Chairing

2024	Organized the InterpPol workshop at the first Reinforcement Learning Conference in Amherst (USA).

Responsabilities

2023-2025	Elected representative of Ph.D. students and Postdocs at the CRIStAL laboratory (Université de Lille).

Other Experience

2018	Analyst Intern, **Barclays**, Radbroke (UK)
2017	AI Intern for A350 maintenance, **Airbus**, Madrid (Spain)

Last updated: June 13, 2025