

Michael Matthews

Machine Learning PhD Student

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Education

October 2023 - April 2027 (expected)

University of Oxford – DPhil Engineering Science

- Broadly interested in reinforcement learning, especially with regards to open-ended learning, goal-conditioned RL, exploration, self-supervised RL, long term decision making and autotricula.
- Supervised by Dr. Jakob Foerster as part of FLAIR.
- Funded by an EPSRC DTP Research Studentship.

September 2020 - September 2021

University College London – MSc Machine Learning

- Supervised by Prof. Tim Rocktäschel and Prof. Edward Grefenstette.
- Worked on skill transfer in RL.
- Distinction (84%) and Dean's List.

September 2017 - July 2020

University of Cambridge – BA Computer Science

- Upper second class honours (75%).

Publications and Preprints

M. Henaff, S. Fujimoto, **M. Matthews**, M. Rabbat - [Scalable Option Learning in High-Throughput Environments](#) at (preprint)

M. Matthews^{*}, M. Beukman^{*}, C. Lu, J. Foerster - [Kinetix: Investigating the Training of General Agents through Open-Ended Physics-Based Control Tasks](#) at *ICLR 2025 (Oral)*

C. Lu^{*}, M. Beukman^{*}, **M. Matthews**, J. Foerster - [JaxLife: An Open-Ended Agentic Simulator](#) at *ALIFE 2024*

M. Matthews, M. Beukman, B. Ellis, M. Samvelyan, M. Jackson, S. Coward, J. Foerster - [Craftax: A Lightning-Fast Benchmark for Open-Ended Reinforcement Learning](#) at *ICML 2024 (Spotlight)*

M. Beukman, S. Coward, **M. Matthews**, M. Fellows, M. Jiang, M. Dennis, J. Foerster - [Refining Minimax Regret for Unsupervised Environment Design](#) at *ICML 2024*

M. Jackson, **M. Matthews**, C. Lu, B. Ellis, S. Whiteson, J. Foerster - [Policy Guided Diffusion](#) at **RLC 2024**

M. Matthews, M. Samvelyan, J. Parker-Holder, E. Grefenstette, T. Rocktäschel - [Hierarchical Kickstarting for Skill Transfer in Reinforcement Learning](#) at **CoLLAs 2022**

Work

June 2025 - December 2025

Meta FAIR, New York City – Research Scientist Intern

- Working on hierarchical and goal-conditioned reinforcement learning for hard exploration tasks.
- Supervised by Mikael Henaff.

October 2021 - June 2023

VivaCity, London – Machine Learning Researcher (Reinforcement Learning Research Team)

- Applied reinforcement learning methods to traffic control.
- Collaborated with the production team to deploy the system to the real world.
- Investigated and solved sim2real issues.
- Kept up to date with the RL and machine learning literature.

June 2019 - September 2019

G-Research, London – Software Engineering Intern

- Developed and maintained internal software for facilitating trading.

June 2018 - September 2018

PlayFusion, Cambridge – Software Engineering Intern

- Developed an RL agent for purposes of balancing the company's digital trading card game.

Selected Awards

2025	ICLR Oral	(top 1.8% of submissions)
2024	ICML Spotlight	(top 3.5% of submissions)
2021	UCL Dean's List	(top ~5% of cohort)
2018	Scholar of Gonville and Caius College, Cambridge	(top 25% of cohort)
2017	Award for top 50 in Computer Science A-Level	(top 0.7% nationwide)

Programming Languages

Proficient

Python (JAX, PyTorch) Java

Familiar

C# TypeScript Angular SQL C/C++ CUDA GLSL Poly/ML Prolog HTML/CSS

Other Interests

Mountaineering/Climbing (CUMC Indoor Meets Secretary 2019/2020), Rowing (Mansfield Boat Club Men's Side Captain 2024/2025), Olympic Weightlifting, Game Development.