

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 open-endedness and reinforcement learning (RL).
- Supervised by Dr. Jakob Foerster.
- 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%)

September 2017 - July 2020

University of Cambridge – BA Computer Science

- Upper second class honours (75%)

Conference Publications

M. Matthews, M. Beukman, B. Ellis, M. Samvelyan, M. Jackson, S. Coward, J. Foerster “Craftax: A Lightning-Fast Benchmark for Open-Ended Reinforcement Learning” in **ICML 2024**,
<https://arxiv.org/abs/2402.16801>

M. Beukman, S. Coward, **M. Matthews**, M. Fellows, M. Jiang, M. Dennis, J. Foerster, “Refining Minimax Regret for Unsupervised Environment Design” in **ICML 2024**,
<https://arxiv.org/abs/2402.12284>

M. Jackson, **M. Matthews**, C. Lu, B. Ellis, S. Whiteson, J. Foerster, “Policy Guided Diffusion” in **RLC 2024**, <https://arxiv.org/abs/2404.06356>

M. Matthews, M. Samvelyan, J. Parker-Holder, E. Grefenstette, T. Rocktäschel, “Hierarchical Kickstarting for Skill Transfer in Reinforcement Learning” in **CoLLAs 2022**,
<https://arxiv.org/abs/2207.11584>

Work

October 2021 - June 2023

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

- Experiment with applying reinforcement learning methods to traffic control.
- Collaborate with the production team to deploy the system to the real world
- Investigate and solve sim2real issues.
- Keep 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

2021	UCL Dean's List	(approx. top 5% of cohort)
2018	Scholar of Gonville and Caius College, Cambridge	(top 25% of cohort)
2017	Netcraft 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++ 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