

Matthew T. Jackson

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Summary

My goal is to develop general-purpose agents. During my PhD, I have focused on world models, primarily using diffusion and video data, as well as offline reinforcement learning and meta-learning. I have developed ML systems throughout my career, working as a research scientist on video modeling for robotics and autonomous vehicles, as well as a software engineer on both ML applications and infrastructure. I am currently seeking research scientist roles, starting from January 2026.

Education

University of Oxford – DPhil in Engineering Science	2021-Jan 2026 (Expected)
Topics: Diffusion, Video Models, Offline and Meta Reinforcement Learning. Member of the AIMS CDT – supervised by Jakob Foerster and Shimon Whiteson.	
University College London – MSc in Machine Learning	2020-2021
Thesis: Model-Based Task Inference for Meta-Reinforcement Learning Distinction, 87% – Dean's List. Supervised by Tim Rocktäschel.	
University of Cambridge – BA in Computer Science	2017-2020
Thesis: Real-Time Video Super-Resolution First-Class Honors, 86% – Senior Scholar, ranked 2/99 in cohort. Highly Commended (top 5) Dissertation, supervised by Pietro Liò.	

Research Experience

Google DeepMind – Student Researcher	May-Jan 2026
Working in the Open Endedness Team on applications of Genie to robotics. Contributor to SIMA 2 and Gemini Robotics 1.5.	
Wayve – Research Scientist Intern	May-Oct 2024
Worked in the World Models Team around GAIA. Completed projects on vision transformer interpretability, latent diffusion, offline RL, and multi-modal video generation.	

Selected Publications

A Clean Slate for Offline Reinforcement Learning	
Matthew T. Jackson* , Ulijad Berdica*, Jarek Liesen*, Shimon Whiteson, Jakob Foerster	
NeurIPS 2025 (Oral)	[GitHub] [ArXiv]
Token-Sparse Diffusion Transformers	
Matthew T. Jackson , Benjamin Ellis, Shimon Whiteson, Jakob Foerster	
Under review	[ArXiv]
Policy-Guided Diffusion	
Matthew T. Jackson , Michael T. Matthews, Cong Lu, Benjamin Ellis, Shimon Whiteson, Jakob Foerster	
RLC 2024	[GitHub] [ArXiv]
Jafar: An Open-Source Genie Reimplementation in Jax	
Timon Willi*, Matthew T. Jackson* , Jakob Foerster	
ICML 2024 Workshop on Controllable Video Generation	[GitHub] [ArXiv]
Adam on Local Time: Addressing Nonstationarity in RL with Relative Adam Timesteps	
Benjamin Ellis*, Matthew T. Jackson* , Andrei Lupu, Alexander D. Goldie, Mattie Fellows, Shimon Whiteson, Jakob Foerster	
NeurIPS 2024	[ArXiv]
Discovering Temporally-Aware Reinforcement Learning Algorithms	
Matthew T. Jackson* , Chris Lu*, Louis Kirsch, Robert T. Lange, Shimon Whiteson, Jakob Foerster	
ICLR 2024	[Podcast] [ArXiv]
Discovering General Reinforcement Learning Algorithms with Adversarial Environment Design	
Matthew T. Jackson , Minqi Jiang, Jack Parker-Holder, Risto Vuorio, Chris Lu, Gregory Farquhar, Shimon Whiteson, Jakob Foerster	
NeurIPS 2023	[GitHub] [ArXiv]

SWE Experience

Amazon – Software Engineering Intern	Jun-Sept 2020
Worked in the Alexa Knowledge Group, developing Java software to rank natural language answers to user questions. Implemented features running on all Alexa Q&A queries.	
Arm – Software Engineering Intern	Jun-Sept 2019
Worked in the Machine Learning Software Group, developing Arm's neural network inference engines in C++. Reviewed deep learning research and added support for new architectures.	
Cubica Technology (acquired) – Software Engineering Intern	Jul-Sept 2018
Developed a Python tool to identify and label reoccurring identities across large-scale video databases. Implemented random forest and tracking methods for video summarization.	

Further Publications

2025	<hr/>	[Google Scholar]
Imagined Autocurricula		
Ahmet H. Guzel, Matthew T. Jackson , Jarek Liesen, Tim Rocktäschel, Jakob N. Foerster, Ilija Bogunovic, Jack Parker-Holder	NeurIPS 2025	
Judge a Book by its Cover: Investigating Multi-Modal LLMs for Multi-Page Document Transcription		
Benjamin Gutteridge, Matthew T. Jackson , Toni Kukurin, Xiaowen Dong	Under review	[ArXiv]
An Optimisation Framework for Unsupervised Environment Design		
Nathan Monette, Alistair Letcher, Michael Beukman, Matthew T. Jackson , Alexander Rutherford, Alexander D. Goldie, Jakob Foerster	RLC 2025	[ArXiv]
2024	<hr/>	
Can Learned Optimization Make Reinforcement Learning Less Difficult?		
Alexander D. Goldie, Chris Lu, Matthew T. Jackson , Shimon Whiteson, Jakob Foerster	NeurIPS 2024 (Spotlight)	[ArXiv]
Near to Mid-term Risks and Opportunities of Open Source Generative AI		
Francisco Eiras, Aleksandar Petrov, Bertie Vidgen, Christian Schroeder de Witt, Fabio Pizzati, Katherine Elkins, Supratik Mukhopadhyay, Adel Bibi, Botos Csaba, Fabro Steibel, Fazl Barez, Genevieve Smith, Gianluca Guadagni, Jon Chun, Jordi Cabot, Joseph Marvin Imperial, Juan A. Nolazco-Flores, Lori Landay, Matthew T. Jackson , Paul Rottger, Philip Torr, Trevor Darrell, Yong Suk Lee, Jakob Foerster	ICML 2024 (Oral)	[ArXiv]
Craftax: A Lightning-Fast Benchmark for Open-Ended Reinforcement Learning		
Michael T. Matthews, Michael Beukman, Benjamin Ellis, Mikayel Samvelyan, Matthew T. Jackson , Samuel Coward, Jakob Foerster	ICML 2024 (Spotlight)	[ArXiv]
SplAgger: Split Aggregation for In-Context Reinforcement Learning		
Jake Beck, Matthew T. Jackson , Risto Vuorio, Zheng Xiong, Shimon Whiteson	RLC 2024	[ArXiv]
Retrieve What You Need: A Mutual Learning Framework for Open-domain Question Answering		
Dingmin Wang, Qiuyuan Huang, Matthew T. Jackson , Jianfeng Gao	TACL 2024	[ArXiv]
Reinforcement Learning Controllers for Soft Robots Using Learned Environments		
Uljad Berdica, Matthew T. Jackson , Niccolò E. Veronese, Jakob Foerster, Perla Maiolino	RoboSoft 2024	[ArXiv]
2022	<hr/>	
Hypernetworks for Meta-Reinforcement Learning		
Jake Beck, Matthew T. Jackson , Risto Vuorio, Shimon Whiteson	CoRL 2022	[ArXiv]
Multi-Modal Fusion by Meta-Initialization		
Matthew T. Jackson *, Shreshth Malik*, Michael T. Matthews, Yousuf Mohamed-Ahmed	FARSCOPE Robotics Workshop 2022 (Best Poster Award)	[ArXiv]