Akbir Khan

akbir.dev

Education

2021-2024 Ph.D. in Foundational Artificial Intelligence, University College London
Advised by Ed Grefenstette & Tim Rocktäschel

2017-2018 MPhil in Advanced Computer Science, *with distinction*, University of Cambridge

2013-2017 MSci in Mathematics with Physics, *with 1st class honours*, University College London

2015-2016 Exchange student, *as Mathematics Specialist*, University of Toronto

Experience

2023- Research Analyst at Cooperative AI Foundation, grant-making and encouraging research to mitigate risks posed by multi-polar AI outcomes

2021-2023 Senior Applied Researcher at Tractable AI, built OCR pipeline which generates £8M in annual revenue

2017-2020 Chief Research Officer at Spherical Defence, developed Seq2seq models for web application firewalls; raised a $2 million seed round

2016 Software Engineer Internship at Deutsche Bank

2015 Research Intern at the Quantum Optics and Laser Group, Imperial College London

Selected Publications

Debating with More Persuasive LLMs Leads to More Truthful Answers - **A Khan**, J Hughes, D Valentine, L Ruis, K Sachan, A Radhakrishnan, E Grefenstette, S Bowman, T Rocktäschel & E Perez. Oral at *The Forty-first International Conference on Machine Learning*

Scaling Opponent Shaping to High Dimensional Games - **A Khan**, T Willi, N Kwan, A Tachetti, C Lu, T Rocktäschel, E Grefenstette & J Foerstor. Oral at *The 23rd International Conference on Autonomous Agents and Multi-Agent Systems*

The Goldilocks of Pragmatic Understanding: Fine-Tuning Strategy Matters for Implicature Resolution by LLMs - L Ruis, **A Khan**, S Biderman, S Hooker, T Rocktäschel, & E Grefenstette. Spotlight at *Thirty-seventh Conference on Neural Information Processing Systems*

MAESTRO: Open-Ended Environment Design for Multi-Agent Reinforcement Learning - M Samvelyan, **A Khan**, M Dennis, M Jiang, J Parker-Holder, JN Foerster, R Raileanu, T Rocktäschel. Accepted at *The 10th International Conference on Learning Representations*

Technical Projects & Skills

Deep Equilibrium Models, a Haiku implementation of the NeurIPS 2019 paper, an implicit-depth differentiable architecture that simulates an infinitely deep network

Bad Flamingo, a gamified data collection of sketches for adversarial machine learning. Awarded 1st Prize at the University of Cambridge Ternary Hackathon

Skills: Python [PyTorch, JAX (*contributor*), Scikit-learn, Pandas, Haiku], Docker, GoLang