

Rosco Hunter

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PhD candidate in the AI Systems Lab at the University of Warwick. Research interests include the efficient design and effective governance of AI. Awarded “Best Paper” at the International Conference of Automated Machine Learning, 2023. Received a First Class (85%) BSc in Mathematics from the University of Warwick.

Education

University of Warwick 2022 - Present

PhD Candidate in Machine Learning (Supervised by Dr. Hongkai Wen)

- Working under the supervision of Dr. Hongkai Wen on Automated Machine Learning and Efficient Architecture Design
- Joint first author of “Exploiting Network Compressibility and Topology in Zero-Cost NAS”, which received the “Best Paper Award” at the International Conference on Automated Machine Learning, 2023
- The paper exploits redundancies in an untrained network’s gradients (learning) and activation patterns (representations) to predict its trained performance - achieving state-of-the-art results at zero-cost network ranking
- Current research focuses on improving the latency of foundation models

University of Warwick 2019 - 2022

BSc Mathematics

- First Class Degree (85%), receiving a first in all 25 assessed modules taken whilst at Warwick
- Key Taught Modules: Math of Machine Learning (87%); Applied Dynamical Systems (81%); Bayesian Statistics (88%); Mathematical Biology (81%); Modelling & Numerics (95%); Neural Computing (84%); Advanced Linear Algebra (81%)
- Essay: ‘Hopfield Networks and Boltzmann Machines’ (81%). This mark was amongst the top in my cohort

Newcastle-under-Lyme School 2017 - 2019

- A-level: 4 A*s (Mathematics, Further Mathematics, Physics, Psychology)

Endon High School 2012 - 2017

- GCSE: 10 A*s, 2 As (Self-taught in Further Mathematics – receiving an A* with Distinction)

Technical Experience

Samsung AI Collaboration 2023

- Joint first-authored two papers (one published and one under review) on low-latency computer vision in collaboration with the SAIC (Samsung AI Cambridge) Embedded AI lab

Neuroscience Research Internship 2021

- Worked under the supervision of Prof. Edmund Rolls (Oxford Centre of Computational Neuroscience) measuring the causal relationships between cortical areas by using a ‘Hopf Algorithm’ composed of noisy coupled oscillators
- Contributions to the development, refinement, and explanation of the Hopf algorithm led to acknowledgments in several high-impact neuroscience journals

Teaching and Public Engagement

Best Paper Talk at the Hasso Platter Institute 2023

- Delivered the “[Best Paper Talk](#)” at the International Conference of Automated Machine Learning to an audience including teams from Google, Meta, Amazon, and other prominent groups

Mathematics Graduate Teaching Assistant 2022 - 2023

- Graded the assignments of eight first-year Warwick Mathematics students and led weekly small group teaching sessions to offer feedback on their assignments

Online Articles 2023 - Present

- Author concise [articles](#) covering subjects from machine learning (i.e., self-critique in LLMs) to contemporary political theory and philosophy (i.e., the vulnerable world hypothesis)

Additional Skills

Publications: A full list of publications and articles can be found at RoscoHunter.github.io

Interests: Passion for philosophy, world music, and foreign affairs