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

- 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” – Awarded Best Paper
  The paper exploits redundancies in an untrained network’s gradients to predict its performance after training
- Joint first author of “Fast Inference Through the Reuse of Attention Maps in Diffusion Models”
  The paper reduces the latency of text-to-image diffusion models by reusing attention maps during the sampling procedure

University of Warwick — 2019 - 2022
BSc Mathematics

- First Class Degree (85%) receiving a first in all assessed modules (top 5% of cohort)
- Key Modules: Mathematics of Machine Learning; Applied Dynamical Systems; Neural Computing; Modelling & Numerics; Mathematical Biology; Bayesian Statistics; Bifurcations & Symmetries; Advanced Linear Algebra

Newcastle-under-Lyme School — 2017 - 2019

- A-level: 4 A*s in Mathematics, Further Mathematics, Physics, Psychology (top 1% of country)

Endon High School — 2012 - 2017

- GCSE: 10 A*s, 2 As (top 1% of country)
- Self-taught in Further Mathematics – receiving an A* with Distinction

Technical Experience

Samsung AI Collaboration — 2023

- Joint first-authored two papers (listed above) 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 relationship between brain areas with a ‘Hopf Algorithm’ composed of noisy coupled oscillators
- Contributions to the development, refinement, and explanation of the Hopf algorithm led to acknowledgments in multiple papers that have since accrued over 150 citations

Teaching and Public Engagement

Online Articles — 2023 - Present

- Author concise articles on Medium that cover subjects ranging from Machine Learning (i.e., self-critique in language models) to Political Theory (i.e., the vulnerable world hypothesis)

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 Tutor — 2019 - 2022

- Provided over 300 hours of online tuition in Mathematics and Physics to push high-achieving A-level students

Additional Skills

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

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