



Job title	Research Assistant in machine learning	Job family and level	RT4a
School/ Department	School of Physics and Astronomy	Location	University Park Campus

Purpose of role

The role holder will conduct computational research in the field of machine learning, specifically at the interface of large language models and statistical mechanics, with applications to scientific areas including the interface of statistical physics and biomaterials. The role holder will be an integral part of an interdisciplinary team of researchers covering a broad range of topics including statistical physics, machine learning and biomaterials, and based in the Condensed Matter Theory group of the School of Physics and Astronomy. We seek a motivated, skilled and independent researcher to complement our team.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	Carry out research - To plan and conduct research using recognized approaches, methodologies and techniques within the research area. - To manage own research activity and resolve problems, if required, in meeting research objectives and deadlines.	70%
2	Disseminate research - To write up research work for publication. - To contribute to the dissemination of research results at conferences.	10%
3	Build research relationships - To build relationships with both internal and external contacts in order to exchange information, to form relationships for future collaborations, and to identify potential opportunities for collaboration. - To collaborate with academic colleagues on areas of shared interest.	10%
4	Support other group members	10%

	Provide support, guidance and supervision to other members of the research group, where appropriate, in own areas of expertise.	
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Person specification

	Essential	Desirable
Skills	Excellent oral and written communication skills, including the ability to communicate with clarity on complex information. High analytical ability to analyse and illuminate data, interprets reports, evaluate and criticise texts and bring new insights. Ability to creatively apply relevant research approaches, models, techniques and methods. Ability to build relationships and collaborate with others.	Ability to foster a research culture and commitment to learn in others.
Knowledge and experience	Experience in use of research methodologies and techniques to work within area. Strong track record in machine learning and machine learning engineering. Strong track record in software engineering and development. Familiarity with the idea of high-performance computing in a research setting. Some familiarity with the concepts of high-performance computing in a research setting. Some familiarity with the concepts of containers (e.g. docker) Proven experience of research in Large Language Models. Proven experience with rare event analysis.	Proven experience with high-performance computing methods. Proven experience with Docker, Singularity or similar containerisation approaches. Proven experience with serving large language models. Proven experience with research into rare event analysis as applied to Large Language Models.
Qualifications, certification and training (relevant to role)	Minimum of an MSc in machine learning or equivalent in relevant subject area.	



Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

Valuing people	Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.
Taking ownership	Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.
Forward thinking	Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning.
Professional pride	Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.
Always inclusive	Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

Key relationships with others



