

Research Assistant in Lifelong Deep Reinforcement Learning

Job Ref: REQ220716

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.

This is an opportunity for a junior researcher to join a research project funded by DARPA to develop distributed and continual deep reinforcement learning systems. The person appointed will be responsible for implementing a set of algorithms to produce a distributed multi-agent system with lifelong reinforcement learning capabilities. The effort will be carried out with the support of our research group and international collaborators and the use of the latest server-based GPU computing facilities equipped with Nvidia A100 cards. The implementation requires excellent knowledge of Python, Pytorch and Tensorflow as tools to implement different deep lifelong reinforcement learning approaches. The use of Git repositories and collaborative coding will be required.

The Research Assistant will be based in the Department of Computer Science, working under the supervision of Dr. Andrea Soltoggio.

Job Description

Job Grade: Specialist and Supporting Academic Grade 5

Job Purpose

The short-term post will collaborate with our research team to develop a novel research-based distributed reinforcement learning system. The postholder will implement and test a novel system with the aim to demonstrate its effectiveness with respect to given performance metrics.

Job Duties

The post holder will:

- Carry out algorithm implementations and their performance analysis to include:
 - Implementation of specific RL algorithms.
 - Integration with existing software and framework.
 - Test the system on GPU servers.
 - Carry out a rigorous evaluation of the performance of the algorithm using specific performance metrics.
 - Report regularly to the team and work in close collaboration with its members.
 - Maintain confidentiality of results and other confidential information until authorised to disclose them.
 - Comply with University Health and Safety Policy.
 - Comply with University Rules and Regulations.

Points To Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

Organisational Responsibility

Reports to project supervisor, Dr. Andrea Soltoggio

Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

1 – Application; 2 – Test/Assessment Centre/Presentation; 3 – Interview

Essential Criteria

Area	Criteria	Stage
Experience	Experience on using Machine Learning algorithms and Deep Neural Networks	1,3
	Recent experience working in an academic environment	1
	Experience in implementing algorithms, testing and evaluation	1,3
Skills and abilities	Knowledge of reinforcement learning and deep learning networks	1
	Good report writing skills	1
	Able to maintain confidentiality	1
	Self-motivated and able to work within the research team	1,3
	Ability to work to deadlines	1,3
	Ability to work independently and as part of a team	1,3
	Scientific programming knowledge using Python	1,3
Qualifications	Holding or working towards a Degree in Computer Science, Physics, Mathematics or Engineering	1
Other	Evidence a good working knowledge of equal opportunities and understanding of diversity in the workplace	1,3

Desirable Criteria

Area	Criteria	Stage
Skills and abilities	Knowledge of relevant Health & Safety issues	1,3

Conditions of Service

The position is FULL TIME and FIXED TERM for 9 months. Salary will be on Specialist and Supporting Academic Grade 5 £25,271- £30,046 per annum, subject to an annual pay award, starting salary to be confirmed on offer of appointment. The appointment will be subject to the University's Terms and Conditions of Employment for Operational and Administrative Staff, details of which can be found [here](#).

The University is committed to enabling staff to maintain a healthy work-home balance and has a number of family-friendly policies which can be found [here](#).

The University offers a wide range of employee benefits which can be found [here](#).

We also offer an on-campus nursery with subsidised places, subsidised places at local holiday clubs and a childcare voucher scheme (further details are available at: <http://www.lboro.ac.uk/services/hr/a-z/childcare-information---page.html>)

In addition, the University is supportive, wherever possible, of flexible working arrangements. We also strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN see <http://www.lboro.ac.uk/services/hr/athena-swan/>

Postdoctoral Research Associate in Lifelong Deep Reinforcement Learning

Job Ref: REQ220716

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.

This is an opportunity for a postdoctoral researcher to join a research project funded by DARPA to develop distributed and continual deep reinforcement learning systems. The person appointed will be responsible for implementing a set of algorithms to produce a distributed multi-agent system with lifelong reinforcement learning capabilities. The effort will be carried out with the support of our research group and international collaborators and the use of the latest server-based GPU computing facilities equipped with Nvidia A100 cards. The implementation requires excellent knowledge of Python, Pytorch and Tensorflow as tools to implement different deep lifelong reinforcement learning approaches. The use of Git repositories and collaborative coding will be required.

The Research Assistant will be based in the Department of Computer Science, working under the supervision of Dr. Andrea Soltoggio.

Job Description

Job Grade: Specialist and Supporting Academic Grade 6

Job Purpose

Job Purpose

The short-term post will collaborate with our research team to develop a novel research-based distributed reinforcement learning system. The postholder will implement and test a novel system with the aim to demonstrate its effectiveness with respect to given performance metrics.

Job Duties

The post holder will:

- Carry out algorithm implementations and their performance analysis to include:
 - Implementation of specific RL algorithms.
 - Integration with existing software and framework.
 - Test the system on GPU servers.
 - Carry out a rigorous evaluation of the performance of the algorithm using specific performance metrics.
 - Report regularly to the team and work in close collaboration with its members.
 - Maintain confidentiality of results and other confidential information until authorised to disclose them.
 - Comply with University Health and Safety Policy.
 - Comply with University Rules and Regulations.

- Help prepare, take part and present at DARPA review meetings, including obtaining security clearance if required.
- Help prepare, take part and present at project meetings with the DARPA ShELL project subcontractors.
- Support the supervisor and the research team to deliver and comply with the DARPA project milestones and deliverables.
- Present scientific work at conferences and dissemination events.
- Produce high-quality scientific manuscripts for submission to top-ranked machine learning conferences.
- Carry out algorithm implementations and their performance analysis to include:
 - Implementation of specific RL algorithms.
 - Integration with existing software and framework.
 - Test the system on GPU servers.
 - Carry out a rigorous evaluation of the performance of the algorithm using specific performance metrics.
 - Report regularly to the team and work in close collaboration with its members.
- Maintain confidentiality of results and other confidential information until authorised to disclose them.
- Comply with University Health and Safety Policy.
- Comply with University Rules and Regulations.

Points To Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

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Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

Organisational Responsibility

Reports to project supervisor Dr. Andrea Soltoggio

Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

1 – Application; 2 – Test/Assessment Centre/Presentation; 3 – Interview

Essential Criteria

Area	Criteria	Stage
Experience	Experience in designing, implementing and using Machine Learning algorithms and Deep Neural Networks	1,3
	Recent experience working in an academic environment	1
	Experience in implementing algorithms, testing and evaluation	1,3
	Authoring original work for academic journal papers, conference papers or technical reports	1,3
Skills and abilities	Knowledge of data pre-processing, cleaning and preparation for machine learning algorithms and deep learning networks	1
	Good report writing skills	1
	Able to maintain confidentiality	1
	Self-motivated and able to lead an academic research team	1,3
	Ability to work to deadlines	1,3
	Ability to work independently and as part of a team	1,3
	Scientific programming knowledge using Python	1,3
	Other	Evidence a good working knowledge of equal opportunities and understanding of diversity in the workplace

Desirable Criteria

Area	Criteria	Stage
Skills and abilities	Knowledge of relevant Health & Safety issues	1,3

Conditions of Service

The position is FULL TIME and FIXED TERM for 9 months. Salary will be on Specialist and Supporting Academic Grade 6 (£30,942 – £40,322) per annum, subject to an annual pay award, starting salary to be confirmed on offer of appointment. The appointment will be subject to the University's Terms and Conditions of Employment for Operational and Administrative Staff, details of which can be found [here](#).

The University is committed to enabling staff to maintain a healthy work-home balance and has a number of family-friendly policies which can be found [here](#).

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