RESEARCH ASSOCIATE: Data driven decision making policy learning in multi-agent environments

REQ210930

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.

We seek to employ an excellent Research Associate (RA) at the Institute for Digital Technologies on a fixed-term contract for 12 months. The RA should have an interest and track record in subjects such as machine learning, simulation, signal processing, and data processing. The RA will be expected to collaborate closely with the academics and the industrial partners and take an active role in the delivery of a recently granted research project. It is an excellent opportunity for potential candidates to be part of a dynamic team and take part in the continuous development of the institute's research profile.

The research project is supported by the Engineering and Physical Sciences Research Council (EPSRC) and is partnered by an Elite Football Academy and . The overall aim of the project is to develop data-driven decision-making algorithms for use in real-world multi-agent environments. The developed decision-making algorithms will then be utilized for simulation of multi-agent systems. This ambitious project is made feasible by a unique, real-world multi-agent data set provided by the industrial partner. The impact activities will involve the research team to engage with multiple leading industrial organizations in the area of interactive gaming, intelligent mobility and sports analytics. The successful candidate will manage the research in the multi-agent policy learning algorithm design and development for the simulator.

The project will require travelling to the project partners' sites from time to time for the success of the collaboration. The successful candidate will have solid research background with a track record demonstrated by publications in reputed journals and conferences, preferably in the areas of applied machine learning, and hold a relevant PhD degree in line with the required research areas. The applicant is required to have experience in training deep neural networks using python packages or be willing to learn such skills. The successful candidate will be willing to use their knowledge and expertise in the respective fields in developing research ideas suitable for further funding and contribute to the postgraduate research supervision as appropriate.

Job Description

Job Grade
Specialist and Supporting Academic Grade 6

Job Purpose

To conduct research in the design and development of multi-modal data driven decision making policy learning algorithms and simulation, for use in various multi-agent applications. This will require knowledge of signal processing, data fusion, discrete event simulation and machine learning.

Job Duties

- Managing the technical delivery of the work package on data-driven decision making, and simulation within the research project
- Develop a front-end user-interface and associated software to present the algorithms for the use of stakeholders
- Maintaining strong communication with the principal investigator and the rest of the project team at LU London and in the project consortium
- Ensuring that the work package is progressing according to project milestones
- Actively engaging in research related discussions with the PhD students and the academics of the Institute for Digital Technologies
- Authoring high-quality journal publications resulting from the original research done in the project, suitable for submission in the REF.
- Seeking appropriate funding opportunities for prospective research projects, especially focusing on the areas that will reinforce and extend the reputation of the Institute for Digital Technologies.
- Undertaking other duties as may be reasonably requested and that are commensurate with the nature and grade of the post

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 Dr Varuna De Silva at the Institute for Digital Technologies.

Person Specification

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

1 – Application
2 – Interview

Essential Criteria

Area	Criteria	Stage
Experience	Evidence of current research activity in the areas of interest consistent with the needs of Institute for Digital Technologies	1,2
	Track record of publications in line with their academic experience, including high quality refereed journals and conferences, in the areas closely related to the subjects of interest	1
	Experience of presenting research work at international conferences and/or other venues	1
Skills and abilities	Very good technical skills in programming with widely used tools (e.g., Python, MATLAB, machine learning libraries such as TensorFlow) and deep neural network training	1,2
	Ability to identify social / cultural / economic impacts from the research activity they engage with	2
	Ability to work under strict deadlines, proactively and independently	2
	Excellent written and oral communication skills	1,2
	Self-motivated with ability to meet deadlines	2
	Ability to work well with other researchers collaboratively both within the same organisation and other project partners	2
	Excellent analytical skills	1,2
Training	Willingness to undertake appropriate further training and to adopt new procedures as and when required	1,2
Qualifications	A PhD degree or equivalent in Electrical/electronic engineering, computer science, telecommunications or an equivalent field that is closely related with the indicated areas of research	1
Other	Commitment to observing the University's Equal Opportunities policy at all times	1,2
	Willingness to travel and attend meetings related to the collaborative research project and other networking activities	1

Conditions of Service

The position is **Full-Time and Fixed Term**. Salary will be on Specialist and Supporting Academic **Grade 6 £31,406 - £40,927 per annum plus £3,252 London Allowance**, at a starting salary commensurate with experience.
The appointment will be subject to the University's normal Terms and Conditions of Employment for Academic and Related 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 are available at http://www.lboro.ac.uk/services/hr/a-z/family-leave-policy-and-procedure---page.html.

Loughborough University London Staff are eligible to apply for an interest free season ticket loan and corporate gym membership.

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/

Application

The closing date for applications is 11:59pm on 31st October 2021.