Aston University

Candidate Brief

Postdoctoral Fellowship: Deep Reinforcement Learning and Knowledge Transfer for Robot Dexterous In-Hand Manipulation

Reference: R190097
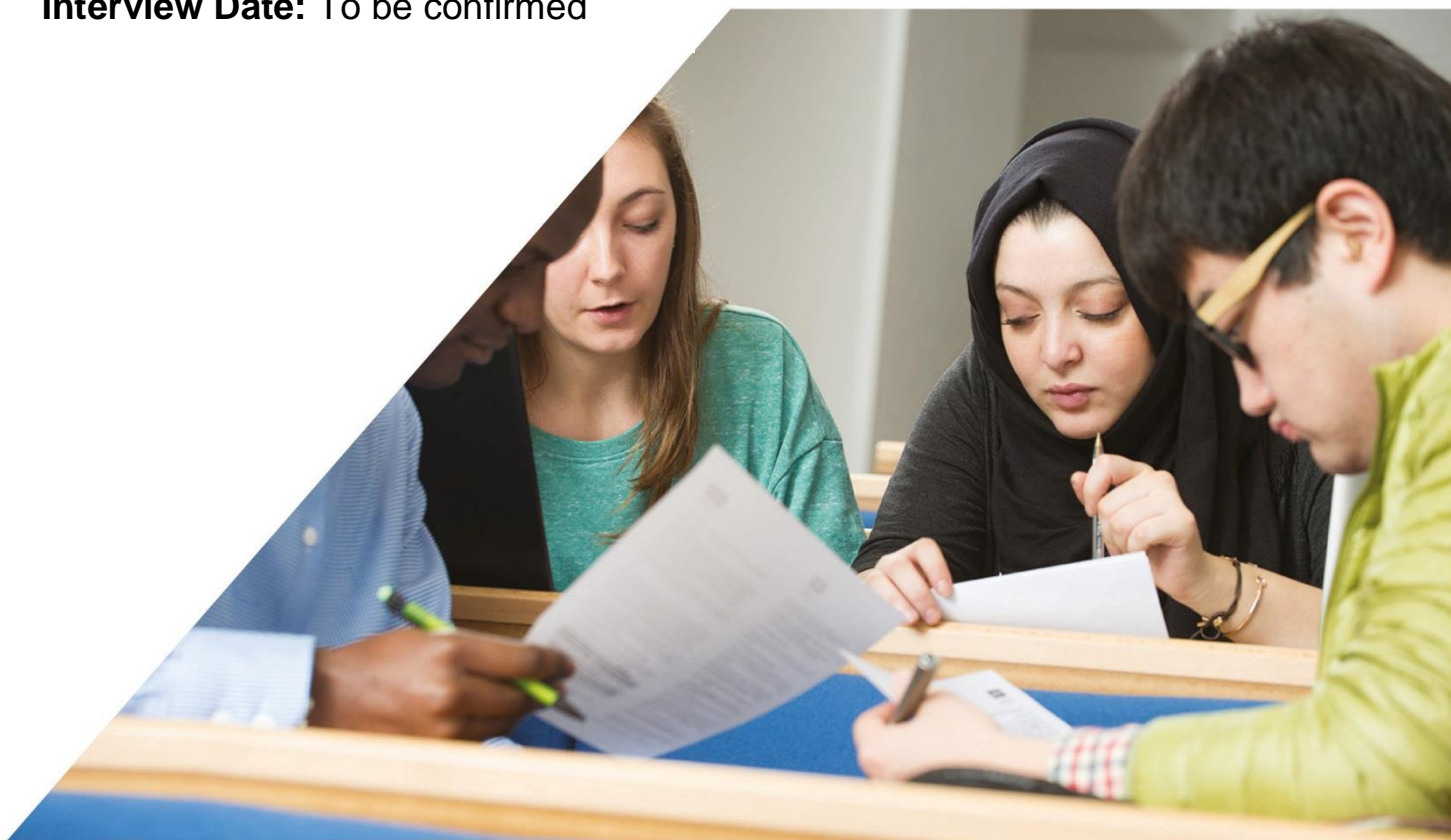
Salary: £35,211 per annum [Grade 8]

Contract Type: Fixed term [1 year]

Basis: Full time

Closing Date: 23.59 hours BST on Sunday 30 June 2019

Interview Date: To be confirmed

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Athena SWAN Member

Job description

Job Purpose:

Applications are invited for a Postdoctoral Fellowship at the School of Engineering and Applied Science to be undertaken within the **Computer Science Research Group at Aston University**, Birmingham, UK. The successful applicant will join an established experimental group working on artificial perception and machine learning towards robot dexterous manipulation. **This position is available to start as soon as possible**.

The postdoctoral fellow will work within the EU CHIST-ERA InDex project (Robot **In**-hand **Dex**terous manipulation by extracting data from human manipulation of objects to improve robotic autonomy and dexterity) that will kick-off in March 2019. It is expected the fellow will collaborate with our partners (Sorbonne University, Technische Universität Wien, University of Genoa, and University of Tartu) during the course of the project.

Main Duties/Responsibilities:

It is expected that the postdoctoral fellow will design and develop an approach based on deep reinforcement and transfer learning to endow a robot to autonomously learn and adapt its strategy to interact with objects during in-hand manipulation tasks, and also being able to transfer this knowledge to other contexts. Beyond of learning from human demonstrations, learning from a synthetic environment (simulations) can be an alternative, where transfer learning will play an important role to use the knowledge acquired from that environment to be applied to a real-world context.

Additional responsibilities

- ▶ Engage in continuous personal and professional development in line with the demands of the role, including undertaking relevant training and development activities to develop themselves and support the development of others.

- ▶ Ensure and promote the personal health, safety and wellbeing of staff and students.

- ▶ Carry out duties in a way which promotes fairness in all matters and which engenders trust.

- ▶ Promote equality of opportunity and support diversity and inclusion as well as working to support the University's environmental sustainability agenda and practices.

Person specification

	Essential	Method of assessment
Education and qualifications	The successful applicant must have a Ph.D. degree in Computer Science or Electrical Engineering or other related degrees.	Application form
Experience	Robotics & Machine Learning	Application form, interview and presentation
Aptitude and skills	Preferred skill requirements include experience with robot perception, grasping and dexterous manipulation and/or knowledge in machine learning.	Interview and presentation

	Desirable	Mnethod of assessment
Education and qualifications	A Ph.D. degree in another related subject.	Application form
Experience	Grasping & Dexterous Manipulation, Deep Learning, Computer Vision.	Application form, interview and presentation
Aptitude and skills	Robot Operating Systems, Python (PyTorch).	Interview and presentation

How to apply

You can apply for this role online via our website www.aston.ac.uk/jobs. Applications should be submitted by 23.59pm on the advertised closing date. All applicants must complete an application form, along with your CV.

Any CV sent direct to the Recruitment Team and Recruiting Manager will not be accepted. If you require a manual application form then please contact the Recruitment Team via recruitment@aston.ac.uk.

Contact Information

Enquiries about the vacancy:
Name: Dr Diego R. Faria
Job Title: Lecturer in Computer Science
Tel: +44 (0) 1212 044 868
Email: d.faria@aston.ac.uk

Enquiries about the application process, shortlisting or interviews:
Recruitment Team via recruitment@aston.ac.uk or 0121 204 4500.

Additional Information

Visit our website www.aston.ac.uk/hr for full details of our salary scales and benefits Aston University staff enjoy

Salary Scales: http://www.aston.ac.uk/staff/hr/payroll-pensions-and-benefits/salary-scales/

Benefits: http://www.aston.ac.uk/staff/hr/payroll-pensions-and-benefits/

Working in Birmingham: http://www.aston.ac.uk/birmingham/city-living/

Employment of Ex-Offenders: Under the Rehabilitation of Offenders Act 1974, a person with a criminal record is not required to disclose any spent convictions unless the positions they applying for is listed an exception under the act.

Eligibility to work in the UK: Candidates who are not citizens of the United Kingdom, or another EEA member country, should check their eligibility to enter or remain the UK in advance of making any job application via the UKVI website https://www.gov.uk/browse/visas-immigration/work-visas. Before applying you should ensure that you meet the requirements, including meeting the English language standards. If you do not meet the eligibility criteria, any application for a work visa would be unsuccessful

Equal Opportunities: Aston University promotes equality and diversity in all aspects of its work. We aim to ensure, through our admissions policies for students, and our staff recruitment and selection processes that we encourage applications from all groups represented in the wider community at a local, national and international level.

The University will endeavour not to discriminate unfairly or illegally, directly or indirectly, against student or potential students, staff or potential staff. This commitment applies to all functions of the University and to any stage of an individual's career.

An Equal Opportunities Monitoring Form is included within the application form. Data you provide on the Equal Opportunities Monitoring Form will be included in a general database, for statistical monitoring purposes, enabling the University to monitor the effectiveness of its Policy, Codes of Practice and Guidelines on Equal Opportunities in Employment. Individuals will not be identified by name.

Data Protection Act 1998: Your personal data will be processed in compliance with the DPA and from 25 May 2018 with the GDPR. The University's Data Protection Policy and Privacy Notices, including the Job Applicant Privacy Notice can be found at http://www.aston.ac.uk/data-protection. Your application will only be used to inform the selection process, unless you are successful, in which case it will form the basis of your personal record with the University which will be stored in manual and/or electronic files. Information in statistical form on present and former employees is given to appropriate outside bodies.

Full details of our terms and conditions of service and associated policies and procedures are available online at www.aston.ac.uk/hr