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**JOB DESCRIPTION**

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| Post title: | **Research Fellow in Deep Representation Learning** | | |
| Academic Unit/Service: | Electronics and Computer Science | | |
| Faculty: | Faculty of Engineering and Physical Sciences | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Dr Christine Evers, Associate Professor | | |
| Posts responsible for: | Some supervision of junior research staff | | |
| Post base: | Office-based with occasional non office-based work (see job hazard analysis) | | |

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| Job purpose |
| To undertake research under the EPSRC project “ActivATOR – Active AudiTiOn for Robots” in accordance with the project’s objectives under the supervision of the award holder. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
|  | To develop, train, test, and evaluate deep learning methods for robot audition. | 60 % |
|  | Regularly disseminate research findings by taking charge of preparing publication materials for referred journals, presenting results at conferences, participating in public engagement, or exhibiting work at other appropriate events. | 20% |
|  | Collaborate with partner institutions and key stakeholders to ensure academic, societal and commercial impact of the research outputs. |
|  | Develop and participate in activities for engagement with the public, policymakers and key stakeholders, including live demonstrators deployed on-board of a robot that showcase the research outcomes. |
|  | Carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. | 15 % |
|  | Implementation of procedures required to ensure accurate and timely formal reporting and financial control. |
|  | Contribute to the supervision of junior research staff and undergraduates, demonstrating or lecturing duties within own area of expertise, under the direct guidance of a member of departmental academic staff. |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5 % |

| Internal and external relationships |
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| Direct responsibility to holder of research award.  Reporting and liaison responsibilities to the external funding body as well as the project’s research steering committee, composed of external project partners and key stakeholders. |

| Special Requirements |
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| To be available to participate in laboratory-based audio experiments as required by the specified research project.  To attend national and international conferences for the purpose of disseminating research results.  To attend outreach, public and policy engagement events for the purpose of ensuring societal impact.  To potentially attend research visits hosted by the academic project partners.  *Applications for Research Fellow positions will be considered from candidates who are working towards or nearing completion of a relevant PhD qualification. The title of Research Fellow will be applied upon successful completion of the PhD. Prior to the qualification being awarded the title of* ***Senior Research Assistant*** *will be given.* |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | PhD (awarded or nearing completion) or equivalent professional qualifications and experience in Computer Science, Engineering, Mathematics, or a related field.  In-depth knowledge of deep learning, including recent developments, such as diffusion models and attentional models.  Demonstrable experience with the development of custom modules using GPU-accelerated frameworks for deep learning (e.g., Pytorch).  Demonstrable experience with the development of bespoke data loaders and pipelines, including feature analysis and processing. | Experience with deep learning for audio data. | CV, Recommendation Letters, Interview |
| Planning and organising | Able to organise own research activities to deadlines and quality standards. |  | CV, Recommendation Letters, Interview |
| Problem solving and initiative | Able to develop understanding of complex problems and apply in-depth knowledge to address them.  Able to develop original techniques/methods. |  | Application documents and interview |
| Management and teamwork | Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development. | Able to co-supervise work of junior research staff, delegating effectively.  Able to contribute to Academic Unit management and administrative processes. | CV, Recommendation Letters, Interview |
| Communicating and influencing | Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience.  Able to write up research results for publication in leading peer-viewed venues.  Able to present research results at group meetings and conferences.  Work proactively with colleagues across the project contributing specialist knowledge to achieve outcomes. | High-quality journal and/or conference publications in top-tier venues in deep learning, robotics, or audio/visual/audio-visual processing. | CV, Recommendation Letters, Interview |
| Other skills and behaviours | Understanding of relevant Health & Safety issues.  Proactive in promoting a working environment that is inclusive and engaging; recognising the value of diversity. |  | CV, Recommendation Letters, Interview |
| Special requirements | Able to attend national and international conferences to present and disseminate research results. | Able to participate in research visits hosted by external project partners. | CV, Recommendation Letters, Interview |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

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| Yes | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the assessment below.  Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

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| **ENVIRONMENTAL EXPOSURES** | **Occasionally**  (<30% of time) | **Frequently**  (30-60% of time) | **Constantly**  (> 60% of time) |
| Outside work |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) | Yes |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers) |  |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling | Yes |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public | Yes |  |  |
| Lone working | Yes |  |  |
| ## Shift work/night work/on call duties |  |  |  |