Edge Hill University

THE TIMES THE SUNDAY TIMES GOOD UNIVERSITY GUIDE 2022 MODERN UNIVERSITY OF THE YEAR

Postdoctoral Research Fellow in Computer Vision and AI

Research Investment Fund

EHR0116-1122

Grade 8 Points 31-35
Salary for this grade: £36,386 - £40,931 per annum.

Contract: Fixed Term from 10/04/2023 until 09/04/2026
Hours: Full Time (37 hours per week)

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DORA

Athena SWAN Bronze Award

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About the Role

You will work on an EPSRC (Engineering and Physical Science Research Council) funded project, ATRACT – A Trustworthy Robotic Autonomous system to support Casualty Triage. The project aims to develop drone-based active sensing, and simultaneous detection and monitoring of injured soldiers in a battlefield for a rapid effective prioritisation in a trustworthy manner before the evacuation helicopter arrives. Beyond battlefield, it can be adapted to civilian applications including search and rescue, ambulance emergency and other multiple-casualty disaster situations. Its trustworthiness will be achieved by considering legal, ethical, system and human elements embedded via design, development, and testing phases. Due to the interdisciplinary nature of the project, you will be working closely with involved co-investigators from Loughborough University London, University of Brighton, and the University of Portsmouth.

About You

You will have a strong scientific interest, self-motivation and willingness to work as a team player within an interdisciplinary setup. You should have a PhD in the broad area of Computer Science/Engineering and/or Applied Mathematics with experience in computer vision, deep learning, neural networks, graph theory, artificial intelligence (AI) and strong computational skills. You must have working knowledge of computer vision and machine learning with strong programming (e.g., Python) and mathematical skills. You should have also experience in software development using agile, iterative and data-driven methodology. A good hands-on-experience with opensource deep learning tools (e.g., TensorFlow, Keras, PyTorch, etc.) is anticipated. Research/work experiences in fine-grained visual classification (FGVC) and/or visual recognition of images/videos from drones are desirable. Publications in top machine learning and/or computer vision learning conferences/journals (e.g., CVPR, ICCV, ECCV, BMVC, AAAI, NeurIPS, ICML, ICLR, etc.) is highly desirable.

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Reward & Benefits

We want you to feel happy when you come to work and proud when you go home.

From the moment you join us you have the opportunity to enhance your skills. We offer various routes for progression, a range of specialist development sessions and academic development opportunities along with an award winning and comprehensive staff health & wellbeing programme (HR Excellence Awards 2017). This means you will receive a full academic induction, be enrolled if appropriate on our PGCTHE, benefit from the Edge Hill University CPD scheme (UKPSF) and our annual University Learning and Teaching day all to support your professional development.

This is just a taste of what we are able to offer you at Edge Hill University.

About Us

Edge Hill University is an ambitious institution, based on an attractive, award-winning 160-acre campus in Lancashire, close to Liverpool and Manchester. The University aspires to combine excellent research of reach and significance with a world-class student experience.

Edge Hill University was named Modern University of the Year in the Times and Sunday Times Good University Guide 2022 and shortlisted for the overall UK University of the Year award. With this award the University was called ‘one of the shining stars of the modern university sector.’ The award has come closely after Edge Hill was awarded University of the Year in the Educate North Awards 2020/21.

Edge Hill University appears in the Times Higher Global Rankings (801-1000) and has previously held the coveted UK University of the Year title, awarded by Times Higher Education in 2014/2015.

Other recent successes include a Global Teaching Excellence Spotlight Award (2018) from Advance HE in association with Times Higher Education, being ranked in the top 10 for teaching by the Times/Sunday Times Good University Guide 2017, top in the North West for student experience (Time Higher Education 2017), and top in the UK for student accommodation in the 2017 WhatUni Awards.

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Edge Hill University has achieved both Athena Swan Bronze and the European Commission's 'HR Excellence in Research Award' (first awarded 2018 and reawarded 2021), which acknowledges alignment with the principles of the European Charter for Researchers and Code of Conduct for researcher recruitment. The process incorporates both the QAA Code of Practice for Research Degree Programmes and the Concordat to Support the Career Development of Researchers.

Duties and Responsibilities

You will be expected to carry out the following as and when required:

a) Engage positively in research activity in the broad area of computer vision, deep learning, neural networks, graph theory, artificial intelligence under the direction of the project lead/principal investigator.

b) Complete high-quality research in the area of Computer Vision, AI and associated subject areas, leading on accurate assessment of soldiers' injuries in battlefield using videos/images (e.g., thermal and RGB) from drones and attention-driven multimodal data fusion elements of the project and managing the work of others as required.

c) Publish research outputs in leading peer-reviewed journals (e.g., IEEE TPAMI, IEEE TIP, IJCV, CVIU, etc.) and top-tier conferences (e.g., CVPR, ICCV, ECCV, NeurIPS, AAAI, ICML, etc.) with an international audience, as lead author where appropriate.

d) Effectively disseminate research findings at internal and external scientific meetings and conferences, making research accessible to lay and expert audiences.

e) Engage with relevant academic and professional networks through active membership of societies, associations to enhance the reputation of the project and the University.

f) Take an active role in the development of effective applications for research funding from both research councils and other external sources in collaboration with the project lead/principal investigator and others, taking a lead role in elements as appropriate.

g) Work with the PI to identify opportunities for enterprise activity, knowledge exchange income and/or consultancy in this and related areas.

h) Contribute to the delivery of teaching at undergraduate and taught postgraduate level.

i) Supervise third year undergraduate dissertation students and taught Masters within the area of research expertise.

j) Assist in the development of the research skills of postgraduate students and early career researchers through workshops promoting highly specialised skills Computer Vision, Machine Learning, Deep Learning and AI.

k) Ensure that their skills and technical competence are kept under review and enhanced where required to enable them to utilise specialist equipment and software used in the research projects.

l) Contribute to relevant departmental and research group meetings and help to promote a dynamic research environment for colleagues, students and research users.

m) Abide by the University's research governance framework in all aspects of research and work with the PI to ensure that all members of the team understand the importance of research integrity.

n) Undertake additional duties, as required by the project lead/principal investigator or Head of Department.

Person Specification

Please note that applications will be assessed against the Person Specification using the following criteria, therefore, applicants should provide evidence of their ability to meet all criteria.

Methods of Assessment include Application Form (A), Supporting Statement (S), Interview (I) & Presentation (P).

		Essential	Desirable	Method of Assessment (A,S,I,P)
Qualifications				
1.	PhD in Computer Science/Engineering/Mathematics or related area	*		A
Experience & Knowledge				
2.	Detailed and highly specialised knowledge and understanding of Computer Vision, Deep learning, Machine learning and Artificial intelligence	*		A/S/I/P
3.	Previous experience of conducting high quality research involving Computer Vision, Machine Learning, Computational Intelligence and Deep learning	*		A/S/I/P

		Essential	Desirable	Method of Assessment (A,S,I,P)
4.	Experience of publishing high quality academic peer reviewed articles as lead author	*		A/S
5.	Experience of working as a postdoctoral researcher in industry or the Higher Education sector		*	A
6.	Experience of working in multi-disciplinary research		*	A/S/I
7.	Knowledge and experience of the processes involved in preparing and submitting research funding proposals		*	S/I
8.	Experience of teaching undergraduates and postgraduates, including supervising research projects		*	S/I
Abilities/Skills				
9.	Able to communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience (both lay and expert)	*		I
10.	Able to present research results at department meetings and conferences	*		A/I/P
11.	Able to work on own initiative, organising and prioritising work effectively to meet deadlines	*		I
12.	A self-starter, able to work both independently, without supervision, and as part of a team taking a lead on work packages and managing the work of others	*		S/I

		Essential	Desirable	Method of Assessment (A,S,I,P)
Competencies and Personal Attributes				
13.	Enthusiasm	*		I
14.	Commitment	*		I
14.	Team working	*		I
15.	Good interpersonal skills	*		I
16.	Flexibility and adaptability	*		I

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Candidate Guidance

When you are ready to start the formal application process, please visit our Current Vacancies page and click 'vacancies', search for the role you wish to apply for, and click 'Apply Online'. The online application form can be completed in stages and can be revisited at any time. The form automatically saves as you enter your information and it is simple to move backwards and forwards throughout at any time prior to submission. Help is available at each stage to guide you through the form. Before final submission, you can preview your application and can then choose to refine or submit the form.

Please refer to the advert for the closing date for this vacancy, all applications must be submitted by 11.59pm on this date. Following the closing date, we will contact you by email to let you know whether or not you have been shortlisted to participate in the next stage of the selection process. We try our best to inform all applicants within two working weeks following the closing date.

Application > Shortlisting > Interview > Outcome

For informal enquiries about this vacancy, you may wish to contact: Professor Ardhendu Behera, Reader in Computer Science at beheraa@edgehill.ac.uk.

At Edge Hill University we value the benefits a rich and diverse workforce brings to our community and therefore welcome applications from all sections of society.

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