Edge Hill University

Postdoctoral Research Assistant in DeepScoreNet

Using artificial intelligence to develop an automatic software tool for measurement of cleft facial aesthetic outcome for children with a repaired complete unilateral cleft lip.

Reference:	EHR0125-1123
Salary:	£33,966 - £37,099 per annum, pro rata Grade 7, Points 27 - 30
Contract Type:	Fixed Term for 24 months
Hours:	Part Time (18.12 hours per week)
Location:	Ormskirk
Accountable to:	Head of Area/Department
Reporting to:	Line Manager

disability confident EMPLOYER

MINDFUL EMPLOYER

DORA

Athena SWAN Bronze Award

About the Role

This role offers an exciting opportunity to lead a pioneering image analysis project in collaboration with the University and our NHS partner, Birmingham Children's Hospital to develop techniques for the automated assignment of appearance scores to acquired images of the patients after cleft repair.

The post will allow a successful candidate to work in a cutting-edge area while driving the project's aim to automate the process to assign aesthetic outcome scores as an indicator of the quality of the cleft repair, from which various issues can be further investigated such as identification of best practice.

We are looking for a creative and innovative thinker and developer who will take the lead and make a significant contribution to the development of automated techniques and solutions to the field, disseminate the research findings in both national and international venues, and impose some impact on the thinking and practices of the relevant stakeholders: patients, family members, surgeons, social carers, and policy-makers in the NHS sector and services. You will gain the rare opportunity and experience in working and networking with computer scientists, biologists, surgeons, and charity administrators, and acquire an excellent set of skills in scientific research in both academic, NHS and charity sectors.

Duties and Responsibilities

The post holder will be expected to:

a) Engage positively in research activity in the broad area of "Computer Vision" and "Image Analysis" under the direction of the project lead/principal investigator (PI).

b) Complete high-quality research in the area of "Computer Vision" and "Image Analysis" and associated subject areas, leading on the delivery elements of the project, under the direction of the PI.

c) Publish research outputs in leading peer-reviewed journals 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 etc.

f) Contribute to 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.

g) Explore 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) Assist in the supervision of third year undergraduate dissertation students and taught Masters within the area of research expertise.

j) 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.

k) Assist in the development of the research skills of postgraduate students; for example, as part of a postgraduate supervisory team and/or through the delivery of practical workshops.

l) Contribute to relevant departmental and research group meetings.

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

In addition to the above all Edge Hill University staff are required to:

a) Adhere to all Edge Hill's policies and procedures, including Equality and Diversity and Health and Safety

b) Respect confidentiality: all confidential information should be kept in confidence and not released to unauthorised persons

c) Undertake appropriate learning and development activities as required

d) Participate in Edge Hill's Performance Review and Development Scheme

e) Adhere to Edge Hill University's environmental policy and guidelines and undertake tasks in a sustainable manner

f) Demonstrate excellent Customer Care in dealing with all customers

Eligibility

Candidates should note that shortlisting will be based on information provided on the application form with regard to the applicant's ability to meet the criteria outlined in the Person Specification attached.

While the project will focus on the automated solution development, programming and mathematics skills especially in Python, C++, Java, linear algebra, and computational mathematics, for example, are essential. Knowledge and experience in using the open source deep learning packages such as tensorflow, pytorch, sklearn, numpy, scipy, etc. is desired.

Internal staff wishing to apply for a fixed term role as a secondment opportunity must discuss this with their existing line manager before applying.

It is important to note that this job description is a guide to the work you will be required to undertake. It may be changed from time to time to meet changing circumstances. It does not form part of your contract of employment.

It is expected that the post-holder will work flexibly according to the on-going demands of the job.

Contract Type: Academic Research

- Pension Scheme: This post is eligible for the Teachers' Pension Scheme
- Annual Leave: As an academic Researcher your annual leave entitlement is 35 days per annum, pro rata.

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), Test (T) & Presentation (P).

		Essential	Desirable	Method of assessment (A/S/I/T/P)
Qualifications				
1	PhD in Computer Science, Electrical Engineering or Mathematics	*		A
Experience and Knowledge				
2	Detailed understanding, knowledge and programming of computer vision, image processing, and/or machine learning	*		S/I
3	Previous experience of conducting high quality research involving computer vision, image processing, and/or machine learning	*		S/I
4	Experience of publishing high quality academic peer reviewed articles	*		S
5	Experience of working in the Higher Education sector		*	A
6	Experience of working in multi-disciplinary research and using the open source deep learning packages such as tensorflow, pytorch, sklearn, etc.		*	S/I
7	Knowledge 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 and 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)	*		S/I
10	Able to present research results at department meetings and conferences	*		I/P
11	Able to work on own initiative, organising and prioritising work effectively to meet deadlines	*		S/I

		Essential	Desirable	Method of assessment (A/S/I/T/P)
12	A self-starter, able to work independently and without supervision as well as part of a team	*		S/I
13	Ability to operate flexibly and reliably, adapting to change as required	*		S/I
14	Able to develop and maintain effective working relationships at all levels	*		S/I
15	Able to work within ethical guidelines and maintain high levels of research integrity at all times.	*		S/I

How to Apply

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: Yonghuai Liu, Professor of Computer Games and Graphics at Liuyo@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.