UNIVERSITY OF SUSSEX

1 Advertisement

Post Title: Software Developer
School/department: School of Engineering and Informatics/Department of Engineering and Design
Hours: part time at 75%. Requests for flexible working options will be considered (subject to business need).
Location: Brighton, United Kingdom
Contract: fixed term for 4 months
Reference: 21904
Salary: starting at £32,982 to £37,099 per annum, pro rata if part time
Placed on: 09 October 2023
Closing date: 23 October 2023. Applications must be received by midnight of the closing date.
Expected Interview date: 30 October 2023
Expected start date: November 2023 or soon thereafter

As part of the EU-funded research project HumanE AI Net, which brings together top European research centres in AI, the Sensor Technology Research Centre at the University of Sussex is looking for a software developer to lead the development of the technical infrastructure to establish benchmark datasets and run machine learning challenges in "human-centered AI", with a focus on the multimodal perception and modelling of human behaviour from a variety of multimodal sensors.

The applicant will have strong joint engineering and scientific background, with a demonstrated expertise in applied AI and applied machine learning, a solid understanding of the challenges and approaches to managing terabyte-sized machine learning datasets, and an appreciation of the needs of the scientific community in relation to establishing recognised AI benchmarks.

The applicant will have expertise in a variety of technologies which will enable this, including strong coding skills (e.g. Python, Matlab, C, Tensorflow, Pytorch); solid expertise in the deployment and management of computing infrastructures (Linux; Docker, Kubernetes, Puppetteer; AWS, Git, etc), web-based systems (CMS; HTML, JavaScript), experience in the design of high-performance code (e.g. OpenCL, CUDA).

The applicant will have strong organisational skills and will be able to work with a high degree of autonomy and self-motivation in a large, versatile, European research project, taking own initiatives, be creative, ambitious and contributing to enhancing the reputation of the University of Sussex in AI. The applicant will participate in EU project meetings (online or in EU countries if travel restrictions allow for this), and will be expected to initiate and lead activities related to large-scale AI datasets and AI/ML challenges.

The applicant will produce high value scientific papers, as well as open source code related to the project.

The ideal candidates will have a Master in computer science or computer engineering and may be working towards a PhD.

You will work directly with Prof. Daniel Roggen, with a base in the Department of Engineering. In addition, the applicant will share his/her knowledge with other colleagues active in AI at the University of Sussex.

Employment will be subject to the right to work in the UK.

Background. The Sensor Technology Research Centre at the University of Sussex has a major research focus on computational behaviour analytics: the science advancing sensor technologies and AI to recognise and eventually understand human activities and behaviour, for a wide range of applications with high societal value. The Centre has established several large scale machine learning datasets (e.g. the SHL Locomotion/Transportation Dataset; the Opportunity dataset of activities of daily living; the Skoda dataset of manufacturing activities) and has organised several machine learning challenges over the years (e.g. the Opportunity Challenge in 2011 and the SHL Challenge in 2018, 2019, 2020 and 2023).

Please contact Prof. Daniel Roggen (d.roggen@sussex.ac.uk) for informal enquiries.

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

For full details and how to apply see our vacancies page

The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.

2. The School / Division

Please find further information regarding the school/division at http://www.sussex.ac.uk/ei/

3. Job Description

Job Description for the post of: Software Developer

Department: Engineering and Design

Section/Unit/School: Engineering and Informatics

Location: Richmond 4B4

Grade: 6.1

Responsible to: Prof. Daniel Roggen

Responsible for: Prof. Daniel Roggen

The position will involve a variety of tasks as part of a project that aims at establishing benchmark datasets for multimodal perception and modelling of human behaviour, as part of the activities of the lab within the EU project HumanE AI Net.

The post-holder will interact regularly with the EU project partners (by video conferencing, in-person visits, etc.) and drive forward the activities of the Lab within this project.

The post-holder will be responsible for leading the activities related to Neural Architecture Search for Multimodal Activity Recognition. The post-holder will also be responsible for leading the activities related to establishing a “Challenge in computational behavioral analytics with AI and sensors”.

The post-holder will need to exploit a variety of skills to attain these objectives both technical (e.g. coding, infrastructure development and maintenance) and people-related (interacting with project partners, defining jointly agreeable targets and objectives).

The post-holder will closely collaborate with Prof Roggen, the line manager. The post-holder will also share his/her knowledge with other colleagues active in AI at the University of Sussex.

Principle Accountabilities / Main tasks

1 Advance Deep Neural Architecture Search for Multimodal Activity Recognition
2 Establish new collaborations with the EU project partners.
3 Represent the Sensor Technology Research Centre within all the EU project activities (e.g. project and workpackage meetings, email discussions), production of project deliverables, etc.

Specific Duties

1 Present advances in deep neural architecture search within the EU project in the first place, and the wider scientific community.
2 Develop Deep Neural Architecture Search benchmark datasets and challenges
3 Contribute to written documentation (including in scientific publications) of the work performed.
4 Undertake fault-finding and bug fixing in response to incidents and problems.
5 Undertake tasks as identified by the assigned Project Manager.

This Job Description sets out current duties of the post that may vary from time to time without changing the general character of the post or the level of responsibility entailed.

4. Person Specification

SKILLS / ABILITIES

	Essential	Desirable
Strong coding skills (e.g. Python, Matlab, C, Tensorflow, Pytorch)	X	
Proven expertise in the deployment and management of computing infrastructures (Linux; Docker, Kubernetes, Puppetteer; AWS, Git, etc)	X	

Expertise developing and maintaining web-based systems (CMS; HTML, JavaScript)		X
Experience in the design of high-performance code (e.g. OpenCL, CUDA).	X	
Demonstrable skills in the development of large software systems	X	
Willingness to participate in EU project meetings (online or in EU countries if travel restrictions allow for this),	X	
Strong organisational skills		X
Ability to lead collaborative initiatives in data management and analytics	X	
Ability to work in one or more of the following or related areas: software simulation of mechanical systems, computer vision, sensor-based activity analytics	X	
Ability to organize own work with a high degree of autonomy and self-motivation in a large, versatile project, taking own initiatives.		X

KNOWLEDGE

	Essential	Desirable
You should have proven knowledge in one or more of the following software engineering areas: coding, deployment and maintenance of infrastructure, development of high performance code.	X	
Deep Neural Architecture Search	X	
Wearable activity recognition	X	
Knowledge of the scientific landscape of the computational behavior analytics community		X

EXPERIENCE

	Essential	Desirable
Machine learning, deep learning	X	
Computer vision		X
Python	X	
OpenCL/CUDA	X	
Matlab/Octave		X
Puppetter, Kubernetes, Docker, AWS		X
Version management system		X
Contributing to the writing of scientific articles		X

QUALIFICATIONS

	Essential	Desirable

MSc in Computer Science or a closely related subject.	X	

PERSONAL ATTRIBUTES AND CIRCUMSTANCES

	Essential	Desirable
Excellent communication skills.	X	
Ability to work in an multidisciplinary team with a view to achieving the wider goals of the larger project.	X	
Good time-keeping and punctuality.	X	