

Academic Role Profile

Addendum

This document provides additional information relating to both specific aspects of the post/Faculty and any post specific person specification criteria. The information contained within this document should always be read in conjunction with the accompanying generic Job Purpose.

Job Title:	Lecturer/Senior Lecturer/Reader in AI for Multimodal Health Monitoring
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Surrey Institute for People-Centred AI (PAI) appointment

Faculty School/Department(s) for collaboration:

School of Health and Medical Sciences (FHMS), Centre for Vision, Speech and Signal Processing (FEPS), Department of Mathematics (FEPS)

Job Summary/Purpose

We are excited to be recruiting to the new post of Lecturer/Senior Lecturer/Reader in AI for Multimodal Health Monitoring which will be part of our new PAI Institute. The PAI Institute mission is to bring together world-leading expertise in fundamental AI theory and practice with cross-University domain expertise to realise and shape AI impact for public good. The PAI Institute will establish a beacon of national leadership for people-centred AI research and training in partnership with industry, UKRI and government on a national and international basis. If you join us, you will collaborate with colleagues in delivering world-leading research and teaching capability to students and businesses, focusing on the interactions between human and AI system by utilising a true cross-disciplinary approach to research in AI, to solve real-world challenges and problems. AI holds great promise for transforming almost every aspect of healthcare and health research, ranging from monitoring and diagnosis to clinical trials and health care delivery to health economics. AI has the potential to personalise health and social care for the individual in the community and at home. Realisation of the potential of AI in healthcare requires strong linkage between AI expertise, existing health (domain) expertise, key stakeholders (NHS) and the public. To this end, Surrey are excited to be formally establishing an integrated AI-Health ecosystem with key stakeholders to lead the translation of AI enabled technologies into healthcare practice for individual patient benefit. We are therefore welcoming candidates with relevant experience in Multimodal Health Monitoring with a strong focus and understanding of AI, machine learning and mathematical or statistical modelling applied to time series data to assess and predict health status. It is likely you will have a strong methodological interest in employing novel statistical/computational techniques to extract, link and analyse real-world environmental, physiological, and behavioural data relevant to sleep, circadian rhythms and other indicators and determinants of health.

The appointee will lead research, collaboration and project grant applications in AI and Multimodal Health Monitoring. The post is part of the newly established People-Centred AI Institute in collaboration with the Department of Clinical and Experimental Medicine, within School of Biosciences and Medicine in the Faculty of Health and Medical Sciences, and the Centre for Vision, Speech and Signal Processing and the Department of Mathematics in the Faculty of Engineering and Physical Sciences. The post holder will establish and lead a portfolio of research, in collaboration with AI Institute and health science experts across the University. The appointee will also teach and assess on undergraduate and postgraduate programmes in their specialist areas as well as contributing more generally to the School's educational programmes, including supervision. The appointee may be invited to contribute to teaching in their specialist areas across the wider Faculty and/or University. The post holder will also contribute to leading and delivering teaching in cross-University AI programmes at postgraduate level.

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Person Specification AI

- Research leadership in AI, machine learning, data science, computer vision, audio-visual machine perception and/or natural language processing.
- A strong research and publication record.
- Experience in developing research proposals and securing research income together with supervising postgraduate research students.
- Demonstrated track-record of successful multi-disciplinary research leadership and collaboration.
- Familiarity with development, delivery and assessment of programme units.
- Experience of working with industry and other professional bodies.
- Excellent presentation, communication and interpersonal skills.
- Consistently collegial and supportive approach to students and colleagues.
- Experience and potential for independent and collaborative research leadership.

Person Specification Multi-Modal Health Monitoring

- Research leadership in AI, multi-modal monitoring, machine learning, mathematical and statistical modelling.
- Experience of applying AI to multi-modal time series data collected with different temporal resolution and both short and long time scales to assess and predict health status
- Interest in Internet of Things, Sensors, Devices, Technology Development
- Demonstrated track record in:
 - Employing novel statistical/computational techniques to extract, link and analyse real-world environmental, physiological and behavioural data relevant to sleep, circadian rhythms and other indicators and determinants of health.
 - Understanding of the challenges of evaluating AI/digital health technologies in a real-world setting

Person Specification

This section describes the sum total of knowledge, experience & competence required by the post holder that is necessary for standard acceptable performance in carrying out this role. This is in addition to the criteria contained within the accompanying generic Job Purpose.

	Essential/ Desirable
A higher research degree (PhD)	E
Experience of applying AI to multi-modal approaches to monitoring health, physiology and behaviour- to include applying AI to multi-modal time series data collected with different temporal resolution and both short and long time scales to assess and predict health status	E
Internationally excellent research performance demonstrating research leadership in AI, multi-modal monitoring, machine learning, mathematical and statistical modelling	E
Evidence of external research grant income generation in this field relevant to career stage	E
Strong publication record relevant to career stage with a track record of publishing high quality outputs.	E
Demonstrated track record in employing novel statistical/computational techniques to extract, link and analyse real-world environmental, physiological, and behavioural data relevant to sleep, circadian rhythms and other indicators and determinants of health.	E
Experience and potential for independent and collaborative research leadership including working with industry and other professional bodies enabling an	E

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understanding of the challenges of evaluating AI/digital health technologies in a real-world setting	
Demonstrated ability to successfully supervise postgraduate and doctoral students	E
Evidence of high-quality teaching	E
Evidence of scholarly contributions to conferences, professional meetings and societies at an international level, and evidence of achievements in other external activities at an international level.	E
Interest in Internet of Things, Sensors, Devices, Technology Development	D

Key Responsibilities

This document is not designed to be a list of all tasks undertaken but an outline record of any faculty/post specific responsibilities (5 to 8 maximum). This should be read in conjunction with those contained within the accompanying generic Job Purpose.

Main Responsibilities/Activities

- Contribute as a Principal Investigator of the AI Institute to establishing and leading pan-University research in People-Centre AI for the benefit of people and society.
- Develop and lead a research portfolio in the area of AI and multi-modal health monitoring.
- Contribute to, and lead, teaching at undergraduate and postgraduate level.
- Lead a programme of research by managing associated financial/physical resources and recruiting/supervising/guiding/mentoring the work of staff and postgraduate students in own specialist subject area.
- Sustain a strong track-record of publication of high-quality research findings in appropriate primary journals and international conferences.
- Maintain a good level of research funding; contribute to planning and coordinating large multi-disciplinary or multi-Faculty bids involving collaborative groups.
- Enhance reputation in own subject area by engaging in external activities at national level such as contributions to professional networks, meetings, conferences, societies, professional and/or government bodies, editing/refereeing journals and papers.
- Perform administrative duties throughout the Institute/Department/Schools as are recognised by the University in roles commensurate with the remit of an academic (ie, Director of Research, Director of Studies, Programme Director and Examinations Officer) and which contribute to the general life and work of the University.
- **N.B. The above list is not exhaustive.**