Dual Award PhD: Human and activity detection in ambient assisted living scenarios

Opportunity for dual PhD award in human-robot interaction, robotics and AI as a cooperation between the University of Hertfordshire (UK) and Western Sydney University (AU) with a focus on activity recognition. Applicants will have the opportunity to receive co-supervision from Prof Gu Fang at Western Sydney University in order to enrich aspects of activity monitoring from state of the art in monitoring in industrial environments. Candidates are also required to spend first and third year at University of Hertfordshire, and to spend the second year of their PhD research in Sydney, Australia.

Overview:

Qualification type: Doctor of Philosophy (PhD)

Subject area: Computer Science / Robotics / Artificial Intelligence

Location/Campus: Hatfield, College Lane Campus

Preferred start date: 01 October 2022

Closing application date: 31 August 2022

Duration: 3 years

Hours (Full-time or part-time): full-time

Project outline:

Our previous work in ACCOMPANY project and recent collaboration with the North Hertfordshire County Council, focuses on person and activity detection in ambient assisted living scenarios. The next natural progression in this work is to improve the technological readiness of systems for deployment in supervised and unsupervised settings. This involves working on detection algorithms fidelity, as well as user interfaces for the triad of care, the person under care, their relatives, and the service provider. The goal is to detect people and objects and what people do with objects. This then serves as a repository of activities that are automatically detected in support of independent living. The PhD involves both elements of robotics and artificial intelligence to enable accurate detection of activities in a robot-mediated interaction scenario.

Further inspiration and enrichment for this topic emerges from the dual award nature of this PhD. Candidates will have the opportunity to receive co-supervision from Prof Gu Fang at Western Sydney University to enrich aspects of activity monitoring from state of the art in monitoring in industrial environments. Candidates are also required to spend first and third year at University of Hertfordshire, and to spend the second year of their PhD research in Sydney, Australia.

Candidates are expected to have very good programming skills and prior experience in using ambient sensors and mobile robotic devices. Experience in multisensory fusion is a bonus.

Research in Computer Science at the University of Hertfordshire has been recognised as excellent in the REF 2021, with 90% of the research submitted rated as internationally excellent or world leading.
The University of Hertfordshire provides a very stimulating environment, offering many specialised and interdisciplinary seminars as well as general training and development opportunities. The University is situated in Hatfield, in the green belt just north of London.

**Supervisors:**

Principal Supervisor: Dr Patrick Holthaus

Supervisory Team: Prof. Farshid Amirabdollahian

**Entry requirements:**

Applicants should have a very strong first degree (Honours Class 1 or 2) or a Master of research/philosophy degree in Cybernetics, Computer Science, Electronics, or other relevant areas with a minimum of 25% research content. Due to the dual award nature, candidate degrees should equate to the Australian equivalent and recognised by Western Sydney University.

**How to apply:**

Informal contact before application: Candidates are invited to contact Prof Farshid Amirabdollahian or Dr Patrick Holthaus. To apply, download and complete the application form and return it to:

Lynette Spelman  
Research Student Administrators  
University of Hertfordshire  
Hatfield  
Hertfordshire  
AL10 9AB

Preferably, please email the application form to doctoralcollegeadmissions@herts.ac.uk. Applications should also include two references and transcripts of previous academic degrees. We accept applications for self-funded places throughout the year.

**Funding information:**

This is a three-year funded project to begin in 2022 and funding covers UKRI stipend (£15,609 bursary per year) plus tuition fees. The starting date is negotiable, but we would like the applicant to start no later than September 2022.