A limited number of studentships are available for exceptional candidates in particular areas (approximately £14,550 per annum bursary plus the payment of the student fees). Applicants from outside the UK or EU are eligible.

Research in Computer Science at the University of Hertfordshire has been recognized as excellent in the REF 2014, with 50% of the research submitted rated as internationally excellent or world leading.

The Centre for Computer Science and Informatics Research provides a very stimulating environment, offering many specialised and interdisciplinary seminars as well as general training and researcher development opportunities. The University of Hertfordshire is situated in Hatfield, in the green belt just north of London.

The following topics are available for applicants:

A- Adaptive therapeutic HRI

Prior work of researchers in our group has established methods to identify fatigue using EMG and EEG sensing. The next natural step, theme of this studentship, is to explore the link between fatigue and kinematic parameters recorded by the HapticMASTER robot, and also work on using fatigue as a potential input in the robot control loop with a goal to optimise treatment protocol.

Requirements: Applicants should have a very strong first degree or (preferably) a Master's degree in Cybernetics, Computer Science, Biomechanics or other relevant area, and are expected to have strong interdisciplinary interests (e.g. in robotics, rehabilitation, neuroscience). They are also expected to have very good programming skills and interest in robotics.

B- Games and therapeutic interaction

Prior research in our group has focused on developing games for the purpose of rehabilitation. While this is shown to work, it has a limited reach due to diverse set of game preferences in the patient population. The PhD research in this studentship considers turning everyday games into serious games by designing an interface between the two. It addresses the shortcoming that many entertainment games are designed with an able user in mind, and hence are inaccessible to the patients or people with disabilities. Such an interface would in-turn enable different ranges of abilities to interact with games, and hence, have a larger set of games for therapeutic exercise.

Requirements: Applicants should have a very strong first degree or (preferably) a Master's degree in Cybernetics, Computer Science, Biomechanics or other relevant area, Candidates are expected to have very good programming skills and strong game design interest (e.g. prior familiarity with Unity, JMonkey or UNREAL engines).

C- Safe interactions between humans and autonomous systems

Prior work of researchers in our group has focused on the assessment of safety-critical systems, including autonomous vehicles. The open question for a PhD studentship in this area is to determine under what circumstances it is safe for control of an autonomous system to transit between the human user and the system itself. This will require the identification of empowerment information, this being the minimum set of information needed for situational awareness. Application will be to a selected domain, which may include automotive, defence or nuclear.

Requirements: Applicants should have a very strong first degree or (preferably) a Master's degree in Engineering, Computer Science, Mathematics or other relevant area, and are expected to have strong interdisciplinary interests (e.g. in robotics, human factors, neuroscience). They are also expected to have very good analytical skills and an interest in industrial applications of research.

D- Human and activity detection in ambient-assisted living scenarios

Our previous work in ACCOMPANY project (accompanyproject.eu) 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 on 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.

Requirements: Applicants should have a very strong first degree or (preferably) a Master's degree in Cybernetics, Computer Science, Electronics, or other relevant area, Candidates are expected to have very good programming skills and prior experience in using ambient sensors and mobile robotic devices. Experiences in multisensory fusion is a bonus.

Informal contact before application: the PhDs will be conducted under Dr Farshid Amirabdollahian's supervision and candidates are invited to contact f.amirabdollahian2@herts.ac.uk. PhD topic C will be co-supervised by Dr Catherine Menon.

Application: Your application form should be returned to:

Mrs Lorraine Nicholls
Research Student Administrator,
STRI
University of Hertfordshire,
College Lane
Hatfield, Herts,
AL10 9AB
tel: +44 (0)1707 286083
l.nicholls@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.

Deadlines: The next short-listing process for studentship applications will begin on 8 January 2018 with an expected start date of 1st of March 2018.