UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Rehabilitation Robotics, Faculty of Engineering

Salary: Grade 7 (£33,199 – £39,609 p.a.)

Reference: ENGEE1091

Closing date: 02 July 2019

Fixed-term for 2 years

We will consider flexible working arrangements

Research Fellow in Rehabilitation Robotics
School of Electronic and Electrical Engineering

Are you an experienced and ambitious researcher looking for your next challenge? Do you have a background in robotics for rehabilitation? Do you want to further your career in one of the UK's leading research intensive Universities?

We are looking for a proactive individual to join our teams of researchers at the Centre of Intelligent Robotics Lab, currently working on a wide range of affordable, innovative, reconfigurable robots that are tailored to meet patients' needs, deliver effective diagnosis and personalised treatment for patients with stroke.

This opportunity is created by an EPSRC grant led by the University of Leeds and the King's College London. The project aims to develop a nationwide robot-assisted home-based rehabilitation programme. Our project partners Devices for Dignity (D4D), Steeper Group, DIH/Hocoma, AiTreat and the National Demonstration Centre for Rehabilitation at Leeds Teaching Hospital NHS Trust will provide adequate links and resources for this project. This project will establish a transferable technology for stroke survivors' rehabilitation at home, with a potential impact on millions of people in the UK and worldwide.

Your work will focus on developing real-time human ankle joint biomechanics models for disability assessment with proposed justified strategies. You will develop sensing and machine learning algorithms for disability assessment, and IoT based remote diagnosis algorithms for stroke recovery.

You will have a strong background in Mechanical Engineering, Biomedical Engineering, Computer Science, Electronic Engineering, Mechatronics and Robotics or related disciplines, you will have a proven track-record in medical device design, control, and software and hardware development, together with an enthusiastic, proactive approach to research.

What does the role entail?

As a Research Fellow your main duties will include:

- Developing real-time human ankle joint biomechanics models for disability assessment with proposed justified strategies;
- Developing sensing and machine learning algorithms for disability assessment;
- Developing IoT based remote diagnosis algorithms for stroke recovery;
- Evaluating the developed models with a mechanism and test in clinical studies
- Developing a library of exercises for ankle/knee joint rehabilitation and evaluate their effectiveness on patients;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Communicating or presenting research results, including preparing papers for publication in leading international journals and independently writing reports;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Assisting with the supervision of projects in areas relevant to the project.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

What will you bring to the role?

As a Research Fellow you will have:

- A first degree and PhD (or close to completion) in Robotics Engineering, Biomedical engineering, Sensing, Mathematical Modelling or a closely allied discipline;
- Excellent skills in software programming;
- Extensive experience in using different pervasive sensors;
- Extensive experience of state-of-the art machine learning algorithms;
- Good time management and planning skills, with the ability to meet tight deadlines and work effectively under pressure;
- Excellent written and verbal communication skills including presentation skills;

- Proven ability to manage competing demands effectively, responsibly and without close support;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

You may also have:

- A proven track record of peer-reviewed publications in high impact journals;
- Experience of collaborating with clinicians;
- Ability to develop industrial relationships and seek future funding;
- Experience of assisting PhD students with their research;
- Experience of leading discussions in different meetings.

How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Contact information

To explore the post further or for any queries you may have, please contact:

Professor Shane Xie, Chair in Robotics and Autonomous Systems
Tel: +44 (0)113 343 4896
Email: s.q.xie@leeds.ac.uk

Additional information

Faculty and School Information

Further information is available on the research and teaching activities of the Faculty of Engineering and the School of Electronic and Electrical Engineering.

A diverse workforce

The Faculty of Engineering is proud to have been awarded the Athena Swan Silver Award from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our equality and inclusion webpage provides more information.

Working at Leeds
Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our Working at Leeds information page.

Candidates with disabilities
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.