Post Title: MSc Studentship

Post Status/Ref: Fixed Term, 2 years MSc Studentship in Quality of Experience Evaluation of an Immersive Virtual Reality Application Developed to Assess Spatial Auditory Ability

Research Group/Department/School: ADAPT Centre, Dept. of Electronics & Informatics, Faculty of Engineering & Informatics, Athlone Institute of Technology.

Location: Athlone Institute of Technology, Dublin Rd., Athlone, Co. Westmeath, Ireland.

Funding: Payment of tax-free stipend of €18,500k. In addition, payment of academic fees.

Closing Date and Time: 12 Noon on 31st August 2018

**Post Summary**

**Project Title:** A Quality of Experience evaluation of an Immersive Virtual Reality Application developed to assess spatial auditory ability

This research will develop and evaluate (based on Quality of Experience (QoE) principles) an immersive multimedia e-health application that integrates Virtual Reality (VR) and Spatial Audio. Firstly, at a “multimedia systems” level, this project will integrate & synchronize various presentation and sensor technologies. The “presentation system” will include content design and creation and will solicit responses from the user in terms of their spatial auditory abilities. Secondly, to evaluate QoE through user studies, the “sensor system” will integrate a suite of sensors that can capture physiological metrics on user performance (examples include EDA, eye gaze, heart rate, skin temperature, head movement). A convenience sampling approach will be taken on a healthy population to attempt to define normative population performance in such a system.

This MSc will contribute to the advancement of the state-of-the-art in quality of experience of immersive multimedia experiences and also evaluate the utility of such technologies in the e-health domain.

The post is part of the ADAPT Centre. The ADAPT Centre is funded by Science Foundation Ireland to deliver world-class research that creates disruptive innovations in the area of Digital Content Technologies. The MSc position will be supervised by Dr. Niall Murray (Athlone IT) and Dr. Andrew Hines (University College Dublin) and Mrs. Siobhan Murray (Senior Speech and Language Therapist, Health Service Executive).
Duties and Responsibilities
The successful candidate will work within a group of Academics, Postdoctoral Researchers, PhD and MSc students. The successful candidate will research the specialist area of Quality of Experience with respect to Virtual Reality applications. The tasks to be performed as part of this position will include:

- Develop an immersive multimedia driving simulator.
- Develop a multimodal sensor system.
- Perform a series of user studies to evaluate user Quality of Experience of the immersive multimedia simulator.
- Rigorous statistical and data analysis.
- Contributing to journal and conference publications.
- Contributing to short-term, focused projects with ADAPT Industry Partners.

Person Specifications
The successful candidate will have a Primary degree in Computer Science or Computer Engineering with a minimum of II.1 grade or equivalent.

Knowledge, Experience, Skills & Competencies (Essential & Desirable)
The successful candidate:

- Will have strong programming and technical experience.
- Will be highly motivated, with strong written and oral communication skills and a demonstrated proficiency in software development, with strong design (content creation – e.g. Blender) and programming skills (C++, C#).
- Must be eager to work in and learn from multi-disciplinary and multi-organisation teams.
- Should have English language certification if English is not their first language, the requirement being: IELTS: 7.0+, TOEFL iBT: 100+, TOEFL pBT: 600+, CEF: C1+, or equivalent.

Note: Experience with immersive and interactive multimedia technologies (VR headsets etc) is an advantage.

Background on the ADAPT Centre – www.adaptcentre.ie
The ADAPT Centre is Ireland’s Centre of excellence for digital content technology. Funded by Science Foundation Ireland, ADAPT focuses on developing next generation digital technologies that transform how people communicate by helping to analyse, personalise and deliver digital data more effectively. ADAPT researchers are based in four leading universities: Trinity College Dublin, Dublin City University, University College Dublin and Dublin Institute of Technology. Our research is spearheading the development of next-generation digital technologies that enable seamless tech-mediated interaction and communication. The breadth of ADAPT's research expertise is unique globally and the Centre's structure supports collaborative innovation with industry to unlock the potential of digital content.
Why join The ADAPT Centre?

1. Work on hard problems in an interdisciplinary and exciting research environment. The ADAPT Centre combines expertise of researchers at Trinity College Dublin, Dublin City University, University College Dublin, and Dublin Institute of Technology. It brings together more than 150 researchers that have collectively won more than €100M in competitive research funding and have an international track record of bridging research and innovations to more than 140 companies. With €50M in research funding from SFI and industry, ADAPT research and technologies will help businesses in all sectors to manage, personalise and deliver digital content more effectively.

2. Work in a centre focussed on advancing your career. Whether you want to take an academic, industrial, or entrepreneurial career path, ADAPT prides itself in the support and mentoring that enables all its postdocs to reach their full potential. This year alone its postdoc-to-PI programme has helped three postdocs transition to be Principal Investigators on their own H2020 projects, while four other have recently won funding with ADAPT support to realise the commercialisation of their research through spin outs and licensing.

3. As well as providing an exciting work environment with access to cutting edge research, ADAPT support flexible working hours for students and staff, and family friendly working practices.

Funding Information
The position is funded through Science Foundation Ireland and the ADAPT Centre. (Subject to necessary agreement between all parties).

Equal Opportunities Policy
Athlone Institute of Technology is an equal opportunities employer and is committed to the employment policies, procedures and practices which do not discriminate on grounds such as gender, civil status, family status, age, disability, race, religious belief, sexual orientation or membership of the travelling community.

Application Procedure
Please apply via email to vacancies@adaptcentre.ie and include a;
- Targeted cover letter (600-1000 words) expressing your suitability for the position
- Complete CV
- Names and contact details for two academic referees.

Please include the reference code: ADAPT_AIT_MSc on all correspondence.

There will be an interview process, and the successful candidate will be invited to apply via the AIT graduate studies admission system.

General enquires concerning this post can be addressed to nmurray@research.ait.ie

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