BU STUDENTSHIPS 2024

PROJECT DESCRIPTION

PROJECT TITLE
AI-ACT: AI Augmented Clinical Training with Natural Language Processing
PROJECT SUMMARY
We are seeking a talented and enthusiastic candidate to join the CfACTs PLUS Cluster: The Centre for Applied Creative Technologies PLUS – Transforming Healthcare and its Skill Development with Digital Technologies, working specifically on the project: AI-ACT: AI Augmented Clinical Training with Natural Language Processing. AI-ACT aims to develop an AI-automated patient communication system using the Patient Simulation for Live Clinical Training (PSLCT) immersive XR platform developed by i3Simulations. The AI-ACT system will measure both quantitative and qualitative aspects of the training outcomes and team performance, with capacity to capture behavioural and psychological attributes dynamically, which can be used to customise the training experience. The aim is for the AI algorithms to quantify the communication data not only based on the XR content delivered, but also generate appropriate responses from the patient with contextual cues such as body language, mirroring real-life situations. The objectives include: (O1) to review machine learning methods that generate realistic patient responses and identify related rubric matrix for clinical skill development. (O2) to develop the AI-ACT system with build-in functions for simulating patient responses based on content and context of the clinician's communication / responses (i.e. patient responds to dialogue with heightened level of anxiety and pain, resulting in angry tone, change in blood pressure etc). (O3) to carry out experiments and provide effective evaluation for the AI-ACT system. The position will be suitable for any profile in computer science, engineering, mathematics, statistics or from other science disciplines with knowledge in machine learning and AI, preferably a person with experience of working with industry, basic knowledge of NLP and chatbot, and a track record of digital health related projects. The researcher will have access to funding for international travel, e.g., for attending conferences, and research dissemination, while working in a supportive, collaborative, inclusive and non-discriminating working environment. The researcher will be affiliated with the CfACTs PLUS Cluster based at the National Centre for Computer Animation, Faculty of Media and Communication. The group is very dynamic, ambitious, well networked and delivers state-of-the-art research in a range of machine learning and data science topics, publishing research results in prestigious venues.
PGR DEVELOPMENT OPPORTUNITIES

The PGR will be provided with a range of development opportunities via BU's Doctoral College Research Development Programme, Faculty training and bespoke skills related directly to the project

SUPERVISORY TEAM	
First Supervisor	Professor Xiaosong Yang
Additional Supervisors	Professor Sue Green Dr Chantel Cox
Recent publications by supervisors relevant to this project	Publications are available under the staff profiles above.

INFORMAL ENQUIRIES
Please contact the lead supervisor on the following email for informal enquiries: Professor Xiaosong Yang email: xyang@bournemouth.ac.uk
ELIGIBILITY CRITERIA
The BU PhD and MRes Studentships are open to UK, EU and International students. Candidates for a PhD Studentship should demonstrate outstanding qualities and be motivated to complete a PhD in 3 years and must demonstrate: • outstanding academic potential as measured normally by either a 1st class honours degree (or equivalent Grade Point Average (GPA) or a Master's degree with distinction or equivalent • an IELTS (Academic) score of 6.5 minimum (with a minimum 6.0 in each component, or equivalent) for candidates for whom English is not their first language and this must be evidenced at point of application.
HOW TO APPLY
Please complete the online application form by **the deadline on the project webpage.** Further information on the application process can be found at: www.bournemouth.ac.uk/studentships