Candidate Information

Position: Research Fellow
School/Department: School of Electronics, Electrical Engineering and Computer Science
Reference: 24/111953
Closing Date: Monday 24 June 2024
Salary: £37,841 - £45,148 (AC2)
Anticipated Interview Date: Tuesday 16 July 2024
Duration: Fixed Term - Full Time, available for 3 years

JOB PURPOSE:

To be an active member of the research team assisting in the planning and delivery of research activity relating to how the underlying technology of VR and the Metaverse can be used to enhance human engagement, decision making and trust in AI enabled procedures. Specially, the successful person will work on two main application areas. The first relates to manufacturing design processes and how AI and natural language models can assist in the design and visualisation of manufacturing design. The second application area relates to the automation and visualisation of complex data to enable better understanding and decision making in business related processes, such as, audit and compliance testing.

MAJOR DUTIES:

1. Develop and plan an area of personal research and expertise with relevance to the understanding of how the enabling technologies of VR and the Metaverse can be used to enhance human engagement, trust and decision making within AI enabled processes. For example, AI enabled design processes and AI enabled digital automation processes.
2. Design, develop and refine experimental apparatus, field research or experiments in order to obtain reliable data. Specially, we would like to conduct extensive and robust experimentation using quantitative and qualitative measures to understand if personalised virtual environments can enhance better understanding and decision making. The personalisation will be based on a user's experience and will be enabled using AI and natural language processing to seamlessly adapt the experience depending on preferences.
3. Carry out analyses, critical evaluations, and interpretations using methodologies and other techniques appropriate to area of research.
4. Present regular progress reports on research to members of the research group or to external audiences to disseminate and publicise research findings.
5. Prepare, often in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
6. Carry out routine administrative tasks associated with the research project to ensure that project is completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
7. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
8. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

ESSENTIAL CRITERIA:

1. Have or about to obtain a PhD in a relevant area (submission within six months of closing date of recruitment exercise). PhD should be in Computer Science, Engineering or Psychology or a related area such as Cognitive or Behavioural Science if the candidate also has experience of conducting research involving human participants.
2. Relevant research experience.

3. Experience in:
   - The construction and use of immersive Virtual Reality environments. Programming/scripting for relevant Virtual Reality software & hardware (e.g. Unity, Oculus) and general ability to program
   - Using AI and natural language processing.
4. Demonstrable expertise in conducting studies using psychophysiological measures.
5. Demonstrable ability to program experimental tasks.
6. Track record of empirical journal articles and demonstrable analytical capability.
7. Ability to communicate complex information in English effectively in oral and written format to technical and non-technical audiences.
8. Ability to build relationships with a wide range of people and roles at different levels of seniority and to influence decision making.
9. Ability to work independently with a high level of self-motivation, whilst also working in a wider team.

DESIRABLE CRITERIA:
1. Experience of using quantitative research methodologies and techniques relevant to the research project. For example, experience in designing and running lab-based experiments.
2. Experience of using statistical packages to analyse quantitative data.

ADDITIONAL INFORMATION:
Informal enquiries may be directed to Martin Reid at martin.reid@qub.ac.uk