JOB PURPOSE

To conduct research within artificial intelligence for collective intelligence and contribute to the overall research performance of the School and University, carrying out research leading to the publishing of high-quality research. To pursue excellence in research and to inspire others to do the same.

MAIN DUTIES & RESPONSIBILITIES

Research

- **To conduct research artificial intelligence for collective intelligence and contribute to the overall research performance of the School and University by the production of measurable outputs including bidding for funding, publishing in national academic journals and conferences, and the recruitment and supervision of postgraduate research students.**
- To undertake administrative tasks associated with the research project, including the planning and organisation of elements of the project and implementation of procedures required to ensure accurate and timely reporting.
- To prepare research ethics and research governance applications as appropriate.
- To review and synthesise research literature within the field and/or other fields as identified by the Line Manager, post holder, and wider HCD and AI4CI team.
- To contribute to the overall research performance of the AI4CI project, HCD theme, School and University by the production of measurable outputs including supporting bidding for funding, publishing in national academic journals (as a priority)
- (where appropriate) the recruitment and supervision of postgraduate research students
- To work with the project team (at Cardiff University and across partner AI4CI universities) to develop research objectives and further proposals for own or joint research including research funding proposals.
- To attend and or present at conferences/seminars at a local and national level as required.
- To participate in School research activities, including internal and guest seminars and laboratory tours.
- To build and create networks both internally and externally to the university, to influence decisions, explore future research requirements, and share research ideas for the benefit of research projects

Specific Duties

- To take a lead on and support with the design and implementation (set-up, running of human of participants) experiments, data analysis and write-up of findings, and giving presentations related to these activities. The experiments are likely to be largely of a quantitative focus and ideally some would involve using state-of-the art kit within e.g. the IROHMS Simulation Laboratory, including a 6m Igloo VR Cave, Command and Control Centre, Mobile VR Walking Platform, Transport Simulator, and Robots.

Other

- To engage effectively with industrial, commercial and public sector organisations, professional institutions, other academic institutions etc., to raise awareness of the School's profile, to cultivate strategically valuable alliances, and to pursue opportunities for collaboration across a range of activities. These activities are expected to contribute to the School and the enhancement of its regional and national profile.

- To undergo personal and professional development that is appropriate to and which will enhance performance.
- To participate in School administration and activities to promote the School and its work to the wider University and the outside world – such as Open Days and guest visits.
- Any other duties not included above, but consistent with the role.

IMPORTANT NOTE TO CANDIDATES: It is the University's policy to use the person specification as a key tool for short-listing and we only invite candidates to interview who clearly evidence that they meet (or partially meet) each of the essential criteria. During the application process you will be asked to attach a supporting statement. This statement must outline how you meet the criteria below and we recommended formatting this by using each criteria as a sub-heading and providing your relevant experience/evidence below each sub-heading. It is crucial that you save your supporting statement with the vacancy number (eg. 1234BR) in the filename as failure to do so may result in it being omitted from your application.

Essential Criteria

Qualifications and Education

1. Postgraduate degree (or near completion / submission) at PhD level in (but not limited to) Human Factors Psychology / Cognitive Science / Social Psychology Applied Psychology / Human-computer Interaction (with a mostly Behavioural Science focus), or, equivalent or relevant industrial experience

Knowledge, Skills and Experience

2. An established expertise and proven portfolio of research in (but not limited to) human factors and/or human-centred design and/or relevant industrial experience within one or more of the following research fields (or highly related fields):
    i. Cognitive Science
    ii. Experimental Psychology
    iii. Applied Psychology
    iv. Social Psychology
    v. Human-Computer Interaction

3. Knowledge of current status of research in specialist field.

4. Proven ability to publish in national/international journals / national/international conferences and/or other research outputs, and drive to publish outputs (e.g. journal articles, conference papers, reports) linked to the current project.

Communication and Team Working

5. Proven ability in effective and persuasive communication

6. Ability to supervise the work of others to focus team efforts and motivate individuals

Other

7. Proven ability to demonstrate creativity, innovation and team-working within work

8. Proven ability to work without close supervision

Desirable Criteria

1. Relevant professional qualification(s) – e.g. MSc in Psychology / Human Factors / Human-Computer Interaction or highly related area

2. Evidence of collaborations with external partners – e.g. other universities, industry and/or Government

3. Research experience involving human-centred design or a highly related area.

4. Experience of using human factors (and related area(s)) tools and methodologies for research – e.g. to measure barriers and enablers to technology – such as trust, reliability, attitudes, situation awareness, and/or workload.

5. Experience of using experiment generation software, and of programming (i.e. using coding – e.g. Unity, Python, Java).

Additional Information

This role is part of the EPSRC AI for Collective Intelligence (AI4CI) Hub: a 5-year ~£12M EPSRC project bringing together researchers from across the UK addressing challenges in pandemic resilience, smart cities, financial stability, healthcare ecosystems, and environmental intelligence, and other areas. The post-holder will work within the cross-cutting human-centred design (HCD) theme, interacting actively with members of the wider research community of the Hub, identifying synergies that will help build our collective intelligence.

The postholder will be responsible for developing and delivering packages of work (with a key focus on experiments with human participants (for the HCD theme, which explores the ways in which AI-driven smart agents can leverage collective intelligence to help people to make decisions.

The work will directly impact people, organisations, and policymakers by harnessing the power of data-driven insights, and the post-holder will interact closely with our partners in national and local government as well as the commercial sector in shaping the research programme.

This role will be focused on using AI to design and test trusted ‘smart’ agents and/or advisors (though could include other highly related elements) and then will progress to evaluating their impact on the tipping points for collective behaviour change.