Candidate Information

Position:	Research Fellow, Agent Systems/Distributed Computing
School/Department:	School of Electronics, Electrical Engineering and Computer Science
Reference:	22/110567
Closing Date:	Monday 23 January 2023
Salary:	£35,333 per annum
Anticipated Interview Date:	Tuesday 7, Wednesday 8 and Thursday 9 February 2023
Duration:	Fixed Term for 40 months, or until 30 April 2026, whichever is soonest

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of the EPSRC funded research project: Re-Imagining Engineering Design: Growing Radical Cyber-Physical-Socio Phenotypes (RIED) (https://gow.epsrc.ukri.org/NGBOViewGrant.aspx?GrantRef=EP/V007335/1). The RIED Programme Grant is led by the Queen's University of Belfast in partnership with Loughborough University, University of York, Airbus, Rolls-Royce, Spirit / Bombardier, Denroy Plastics Ltd, Far-UK Ltd, Glen Dimplex Group, ITI International TechneGroup Ltd, JW Kane Precision Engineering, OxMet Technologies and The Manufacturing Technology Centre Ltd.

The Research Fellow will join this vibrant network of collaborators assisting in the development of research proposals and the planning and delivery of the research activity specifically to investigate novel models and processes for integration of manufacturing and design.

The post is a critical role, and as such, successful applicants will have responsibilities in independent research, supervision, planning, outreach and collaboration both internally and externally.

MAJOR DUTIES:

1. Undertake research under supervision within the specific research project and as a member of the collaborative research team contribute to the investigation of bio-inspired approaches to product development by developing parallel/distributed systems, including cloud and agent-based solutions.
2. Design, develop and refine agent-based software models that support autonomous interaction among design components within a cloud-based environment.
3. Design, develop and refine scalable models to support management of large populations of design solutions.
4. Carry out analyses, experimental tests, critical evaluation and implementation, and interpretations of experimental data and the literature using methodologies and other techniques appropriate to area of research across a range of platforms and facilities of the wider RIED partnership.
5. Produce high quality research outputs consistent with project aims and commensurate with career stage. This will include collaborating and co-authoring with PI and project team (as appropriate) on outputs.
6. In consultation with the project team, promote research milestones and outputs at national and international conferences and through social media (where applicable).
7. Assist grant holder in the preparation of funding proposals and applications to external bodies.
8. Carry out occasional educational supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
9. Undertake supplementary duties relevant to the success of the project including administrative duties, presentation of regular progress reports and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. 2.1 Honours Degree (or equivalent) in Computer Science (or related subject), Mathematics or Engineering.
2. Normally have or be about to obtain a PhD in Computer Science (or related subject), Mathematics or Engineering.

3. At least 3 years relevant research experience to include:
   • Undertaking research and development in the area of multi-agent systems or parallel/distributed computing.
   • Working effectively as part of a research team in the development and promotion of the research theme.
   • Strong publication record, commensurate with stage of career.
4. Ability to contribute to broader management and administrative processes.
5. Contribute to the School's outreach programme by links with industry, community groups etc.
6. Practical problem solving skills, independence of thought and initiative.
7. Ability to assess and organise resources.
8. Ability to communicate complex information in English effectively in oral and written format to technical and non-technical audiences.
9. Ability to build relationships with a wide range of people and roles at different levels of seniority and to influence decision making.
10. Ability to manage self and prioritise workload.
11. A pro-active approach to work and team development.
12. Commitment to continuous professional development.
13. Ability to meet the mobility requirements of the post including the travel to project partners as required by the role.

DESIRABLE CRITERIA:

1. Experience in cloud computing.
2. Exploration of performance aspects of parallel/distributed systems.
3. Experience in the python programming language.
4. Interest in Industry 4.0 and/or digital twins.