Candidate Information

Position: Research Fellow
School/Department: School of Electronics, Electrical Engineering and Computer Science
Reference: 23/111431
Closing Date: Monday 8 January 2024
Salary: £37,841 per annum
Anticipated Interview Date: Tuesday 23 January 2024
Duration: Fixed term for 33 months

JOB PURPOSE:

To perform research on deployment of machine-learned models for health analytics on distributed IoT/edge/cloud systems using trans precise computing and contribute to the research project "Sustainable Wearable Edge InTelligence (SWEET)".

MAJOR DUTIES:

1. Develop theoretical concepts in trans precise computing in the application domain of health analytics using machine learning, and for precision-aware scheduling in distributed systems.
2. Design, develop and refine a software prototype system for distributed serving of machine learning models that leverage the concepts of trans precise computing to achieve the target constraints on performance, timeliness, power consumption and accuracy.
3. Undertake research under supervision within the SWEET research project.
4. Carry out analyses, critical evaluations, and interpretations of experimental data and the literature using methodologies and other techniques appropriate to area of research.
5. Produce high quality research outputs consistent with SWEET project aims and commensurate with career stage. This activity will include collaborating and co-authoring research outputs with the project team, which includes a PhD student at Queen's University, and the collaborator teams at University College Dublin, Ireland, and Virginia Tech, USA.
6. In consultation with the project team, promote research milestones and outputs at national and international conferences and through social media.
7. Undertake supplementary duties relevant to the success of the project including administrative duties and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. Research Fellow: Normally have or be about to obtain a relevant PhD.
2. Relevant areas include high-performance computing, middleware and computing systems.
3. Recent relevant research experience to include:
   • Undertaking research in the area of high-performance / distributed / parallel computing or middleware
   • A proven track record of using experimental models to carry out analyses, critical evaluations, and interpretations of experimental data as relevant to the research project
   • Working effectively as part of a research team in the development and promotion of the research theme.
4. Strong publication record commensurate with stage of career.
5. Ability to contribute to broader management and administrative processes.
6. Contribute to the School's outreach programme by links with industry, community groups etc.
7. Willingness to undertake additional training in research methods and other related skills as required.
8. Practical problem solving skills, independence of thought and initiative.
9. Ability to communicate complex information effectively in oral and written format.
10. Ability to build relationships to develop internal and external networks.
11. Ability to assess and organise resources.

DESIRABLE CRITERIA:
1. Research experience in:
    - Skills in parallel (multi-/many-core) performance analysis and optimisation
    - Distributed computing including task scheduling
    - Implementation and systems aspects of machine learning, resource-efficient machine learning
    - Approximate and/or transprecise computing.
2. Skills in collaborative software development; applying good practice in research software development.