Candidate Information

Position:	Research Fellow
School/Department:	School of Electronics, Electrical Engineering and Computer Science
Reference:	19/107337
Closing Date:	Monday 29 April 2019
Salary:	£33,199 - £39,610 per annum (potential to progress to £43,266 per annum through sustained exceptional contribution)
Duration:	3 Years

JOB PURPOSE:

To further research in the application of artificial intelligence (AI) and machine learning in a range of multidisciplinary fields (virtual and augmented reality, human computer interfacing (HCI), food technology and medical devices).

In this role, you will develop experiments and prototypes at the frontier of AI research. You will need to engage with research topics and cover new domains quickly; build deep expertise with appropriate data, techniques and tools; apply high standards to the research code around you and develop an ability to identify highly impactful projects in a complex and unexplored domain. You will gain valuable experience in artificial intelligence and help push forward the understanding of intelligent systems, their power and applications.

The primary criterion is demonstrated research excellence in a discipline area relevant to the post and the successful applicant will be ready and equipped to engage with scholars from other disciplines. The candidate will also become an active member of the School of EEECS at QUB, assisting in the production of world leading research output and the development of new research initiatives in AI.

MAJOR DUTIES:

1. Develop and apply highly scalable algorithms based on state-of-the-art machine learning and neural network methodologies to multi-disciplinary research problems (especially in the field of virtual and augmented reality and human machine interaction and decision making).
2. Apply knowledge of relevant research domains along with expert coding skills to platform and framework development projects.
3. Adapt machine learning and neural network algorithms and architectures to best exploit modern parallel environments (e.g. distributed clusters, multicore SMP and GPU).
4. Publish research and present work at suitable conferences.
5. Contribute to writing bids for research proposals to take forward innovative research in the application of AI and machine learning to virtual and augmented reality and human machine interaction.

Planning and Organising:

1. Plan for the use of research resources, laboratories and workshops where appropriate.
2. Plan own day-to day activity within framework of the agreed research programme.
3. Plan in advance to meet deadlines for journal publications and to prepare presentations and papers for conferences.
4. Coordinate and liaise with Head of School over work progress.

Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff and any students who may be assisting with research.

Internal and External Relationships:

1. Liaise on a regular basis with colleagues and students in the School of EEECS and faculties in Queen's University Belfast to build research collaborations.
2. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
3. Join external networks to share information and ideas.

ESSENTIAL CRITERIA:
1. Have (or about to be awarded in the next 3 months) a PhD in Computer Science, Applied Mathematics, Electronics, Electrical Engineering, Physics.
2. At least 2:1 honours degree in Physics, Applied Mathematics, Computer Science, Electronics, Electrical Engineering, or closely related discipline.
3. A high quality publication record in peer reviewed journals commensurate with career stage and experience with presentations of research outputs in conferences, workshops, or seminars.
4. Demonstrable experience writing or contributing to research funding bids.
5. At least 3 years research experience in at least one of: intelligent systems, artificial intelligence, applied mathematics, algorithms development.
6. Have a working knowledge of typical algorithms used in AI, for example, NN, GA, SVM, PCA/RRR.
7. Ability to contribute to research management and administrative processes.
8. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques.
9. Ability to communicate complex information clearly.
10. Demonstrable intellectual ability.
11. Ability to assess and organise resources.
12. Ability to travel and present at project meetings, and international conferences.

DESIRABLE CRITERIA:
1. Strong background in software application development.
2. Experience of the application of AI algorithms and software in multidisciplinary activities.
3. Experience of developing and testing novel algorithms.
4. Experience in producing timely technical documentation on research projects (deliverables, reports).