

## Candidate Information

<b>Position:</b>	Research Fellow - Machine Learning & Visual Data
<b>School/Department:</b>	School of Electronics, Electrical Engineering and Computer Science
<b>Reference:</b>	19/107477
<b>Closing Date:</b>	Tuesday 11 June 2019
<b>Salary:</b>	£33,199 - £35,210 per annum
<b>Anticipated Interview Date:</b>	26/6/19
<b>Duration:</b>	2 years

### JOB PURPOSE:

The research project aim is to utilise existing large-scale RGB domain data to reduce the requirements of IR-domain data (or the other domain data) for general object classification and detection by means of deep domain adaption technique. The main explorations of the proposed approach include but are not limited to:

- Investigating state-of-the-art domain adaption methods for RGB data to IR data adaption
- Building end-to-end domain adaption approaches for different tasks, e.g., classification and detection
- Exploring multi-task learning to fuse different, but related tasks into one unified framework, e.g., simultaneous tracking, detection and classification.

The Research Fellow will be an active member of the research project, assisting in the development of research proposals and the planning and delivery of the research activity within the specified area so that the overall research objectives are met.

### MAJOR DUTIES:

1. Undertake research under supervision within the research project, co-ordinating research work within the framework defined by the project and investigator.
2. Be resourceful in overcoming problems encountered in the development of new approaches and the implementation of existing techniques in the normal course of the research.
3. Define the methodology to solve the problems in the project.
4. Work in close cooperation with the other project investigators, project partners, technical staff, and PhD students working on the project to resolve problems, as required.
5. Present regular progress reports on research to members of the research group or to external audiences to disseminate research findings through internal reports, conference proceedings, and journal publications. This will include domestic and international travel and support of meetings at the Defence Science and Technology Agency (DSTA), Singapore
6. Prepare, often in consultation with supervisor, material for publication in national and international journals and presentations at international conferences.
7. Assist grant holder in the preparation of funding proposals and applications to external bodies.
8. Interact with other researchers, proactively engage with and provide essential training courses to the partners in DSTA. Organise work and time in order to meet the deadlines and milestones as defined within the project.
9. 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.
10. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

### Planning and Organising:

1. Work with the line manager to define and plan a programme of relevant research work and then to produce publishable results within appropriate timescales.
2. Be expected to write up reports and papers on the key findings of the research and to disseminate this work in major conferences and archival journals.

3. Work independently to plan the schedule of tasks to ensure that work of the projects progresses according to the agreed overall timetable.
4. Organise own time so that different aspects of the project can proceed in parallel giving due consideration to the needs of other members of the team.
5. Be proactive in interacting with project partners to share data and ideas
6. Take a leadership role in regular project meetings to report and review progress, and to generate new ideas and lines of research.
7. Determine the aims, objectives and deadlines for short to medium term work plan, in discussion with the Line Manager (particularly for medium-term planning).
8. Contribute to long-term strategic planning and development of group activities, in discussion with the Line Manager and other researchers.

**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. Frequent (daily to weekly) contact with other researchers in the project team and relevant research groups including academic staff, other researchers and PhD students.
2. Regular (typically monthly) contact with project partners in the Defence Science and Technology Agency (DSTA), Singapore.
3. Regular (typically half-yearly) visit or host project partners for face to face communication and presenting deliverables.
4. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
5. Join external networks to share information and ideas.
6. Contribute to the School's outreach programme by establishing links with local community groups, industries etc.

**ESSENTIAL CRITERIA:**

1. A good undergraduate degree in a relevant discipline and a PhD in computer vision, machine learning, data science, or mathematics or a clearly related area.
2. At least 3 years relevant research experience.
3. A proven track record of research ability in computer vision and machine learning.
4. Experience in delivering research project results in computer vision and machine learning, i.e. a record of peer-reviewed journal and conference papers in a relevant area.
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. Sufficient breadth and depth of specialist knowledge in the discipline and of research methods and techniques to work within established research programmes.
8. Ability to communicate complex information clearly.
9. Ability to work collaboratively with researchers from different disciplines or technical background.
10. Ability to work independently, exercising a high degree of initiative and demonstrating a pro-active and flexible approach to work.
11. Demonstrable intellectual ability.
12. Ability to assess and organise resources.
13. Ability to contribute ideas and initiate new ways of working.

**DESIRABLE CRITERIA:**

1. Practical experience of working in a research project involving academic and industrial partners.
2. Prior knowledge and project experience about domain adaptation.