

Job Description

Job Title	Postdoctoral Research Assistant
Department:	Computer Science
Grade:	5 Research
Salary:	£30,968 per annum
Working hours per week:	35
Appointment period:	3 years
Reports to:	Prof S Gong (Principal Investigator) and Dr T Xiang (Co-Investigator)
Location:	Based on the Mile End Campus.

Definitions

In the rest of this document the following terms are interpreted according to these definitions.

1. The Project: SAMURAI (**S**uspicious and **A**bnormal behaviour **M**onitoring **U**sing a netwo**R**k of c**A**meras & sensors for s**I**tuation awareness enhancement)
2. The Investigators: Prof S Gong (Principal Investigator) and Dr T Xiang (Co-Investigator)
3. The Grant: SAMURAI
4. The awarding authority: EU
5. The subject area: The European Union (the 'Commission') have awarded a Consortium of Universities and Companies headed by QMUL to undertake novel and leading-edge technical research over a period of three years into developing underpinning capabilities and tools for an innovative intelligent surveillance system to be used for the monitoring of both inside and surrounding areas of a critical public site - the SAMURAI project. This work will be managed by the Project Management Committee chaired by the Project Coordinator/Principal Investigator (the PC/PI).

Job Purpose

To undertake research investigations in collaboration with and under the supervision of the investigators in order to realise the objectives and development of the Project as set out in the SAMURAI Description of Work.

Main Responsibilities

Specific Duties

1. To contribute to the project.
2. To be responsible, under the general guidance of the investigators, for undertaking the programme of work.
3. To prepare reports of appropriate research results for public presentation through seminars and conferences, to contribute to writing papers summarising research findings for publication in peer-reviewed journals (of high international standing where possible), and to contribute to other reports where possible.
4. To develop, in collaboration with the investigators, such new techniques as may be necessary to achieve the objectives of the research.
5. To undertake any other relevant activities related to the project as appropriate
6. To comply with any requirements of the EU Commission
7. To undertake such other duties as may be reasonably expected by the PI and/or the CI.

General Duties

1. To conduct empirical research.
2. To assist in the supervision of student projects as necessary.
3. To collect data and undertake any appropriate analysis of data as requested.
4. To coordinate the provision of consumable items for the facility (auditing stock, liaising with suppliers, preparing regular orders of commonly used items).
5. Where appropriate to assist the supervision, training, expert advice and / or assistance to new members of the team, research students.
6. To maintain appropriate databases, to keep accurate written and computerised records and to ensure that these records are stored in a secure place, and to maintain confidentiality of all electronically stored personal data in line with the provisions of the Data Protection Act.
7. To make research initiatives and original contributions to the research programme wherever possible, and to contribute freely to the team research environment in a manner conducive to the success of the research project as a whole.
8. To attend regular meetings with the research team and investigators as required.

9. To attend and participate in the Department academic activities.
10. To undertake literature searches for the research project, and to be able to interpret and present the findings of the literature searches and advise the research teams appropriately regarding potential projects as required by the PI and the CI.
11. To keep up to date with subject related and professional issues, in particular, developments in the specific subject area.
12. To undertake certain housekeeping responsibilities, the nature of which will be discussed and agreed by the PI and the CI, but which may need to be changed from time to time during the course of the project.
13. To comply with relevant College policies and regulations with due regard to financial matters, harassment, equal opportunities, public interest disclosure, health and safety, intellectual property and patenting, data protection or any other rules, regulations or codes binding on the member of staff.
14. To monitor research findings with a view to commercial exploitation, and to inform the PI and the CI.
15. To participate in the College Appraisal Scheme (QMPAS) and demonstrate a commitment to continuing professional development.
16. To show a professional attitude to matters of laboratory hygiene, organisation and safety, and to observe and to take an active role in fulfilling all statutory health and safety regulations.

This job description sets out the duties of the post at the time it was drawn up. Such duties may vary from time to time without changing the general character of the duties or level of responsibility entailed. Such variations are a common occurrence and cannot of themselves justify a reconsideration of the grading of the post.

Decision Making

- To make judgements involving complex facts or situations, which require analysis, interpretation and comparison of data or other information.
- To adopt flexible working practices where required.
- To encourage interaction between project members and within the research group.

Working Relationships & Contacts

Exchange relevant information, relevant to the project both internally and externally: with staff, students, senior management and peers.

Internal

- To establish and maintain relationships in order to collaborate with researchers and academics in own team, within the department and outside the department within the College when necessary.
- To work with students.

External

- To work with external collaborators as agreed with the investigators.
- To provide, receive and present complex information to a large group of people.

Dimensions

- To assist in supervision and training of new members of staff and students.

Organisation Chart

The job holder is responsible to both the PI and the CI.

Person Specification

Qualifications

- PhD or equivalent professional experience in computer vision and/or machine learning

Experience

- Experience of undertaking original research in one of the following areas: multiple object tracking and labelling, object behaviour analysis, incremental visual learning, abnormality detection, object and action categorisation, surveillance video analysis, vision algorithms for PTZ and smart camera controls
- Proven track record on publications in premier computer vision and machine learning conferences and journals
- Experience in processing image sequence and video data is an advantage

Knowledge

- Computer vision and/or machine learning, and in particular graph models, temporal prediction, subspace manifold analysis, cross-correlation
- Ability to maintain accurate and up to date records
- Understanding of the research process

Skills

- Building demonstrations and carrying out experimental evaluations
- Ability to organise and prioritise own work and organise research within the project timetable
- Computer literacy, fluent programming skills in C++ and MATLAB, Latex and Linux OS familiarity desirable
- Good communication skills
- Effective team working.
- Analytical skills

Disposition

- Flexible and co-operative
- Self-motivated and hardworking
- Willingness to learn new skills

Circumstances

- General health appropriate to the duties of the post
- Willingness to work flexibly in order to achieve project demands
- Ability to attend work as required
- To start as soon as the project starts