

Job Description

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| Job Title: | Postdoctoral Research Assistant |
| School: | Electronic Engineering & Computer Science |
| Grade: | 4 Research |
| Salary: | £31,897 per annum |
| Working hours per week: | 35 |
| Appointment period: | 3 years |
| Reports to: | Dr Lourdes Agapito-Vicente |
| Location: | Mile End Road Campus. Postholder may be required to carry out duties at other College sites. |

Definitions

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

1. The Project: HUMANIS (**HU**man **Motion Analysis** from **Image Sequences**)
2. The PI: Dr. Lourdes Agapito-Vicente
3. The Grant: HUMANIS
4. The awarding authority: European Research Council (ERC) Starting Independent Researcher Grant.
5. The subject area: The HUMANIS research project aims to develop computer vision algorithms to recover the full detailed 3D shape and motion of non-rigid objects such as the human body purely from image sequences taken by commercial video cameras without the use of markers or prior models. Building on our recent work on non-rigid structure from motion and using the exciting scenario of human motion analysis the project seeks to investigate new methods to obtain 3D models that describe the intricate way in which a human moves and deforms in a purely data-driven approach. The newly created and prestigious ERC Starting Independent Researcher Grants aim to support up-and-coming research leaders to consolidate their research team and to start conducting independent research in Europe.

Job Purpose

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

Main Responsibilities

Specific Duties

1. To contribute to the project.
2. To be responsible, under the general guidance of the investigator, for undertaking the programme of work.
3. To prepare reports of appropriate research results for public presentation through seminars and conferences. Contribute to writing papers summarising research findings for publication in peer-reviewed journals (of high international standing where possible). Contribute to other reports where possible.
4. To develop, in collaboration with the investigator, 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 European Research Council.
7. To undertake such other duties as may be reasonably expected by the Principal Investigator.

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, keeping 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 investigator as required.

9. To attend and participate in the School's 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.
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, 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 Head of Innovation & Enterprise of any appropriate novel research outcomes.
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 team 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 principal investigator.
- To provide, receive and present complex information to a large group of people.

Dimensions

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

Organisation Chart

The jobholder is responsible to the Principal Investigator.

Person Specification

Qualifications

- Good first degree in Computer Science, Engineering or related discipline (Essential).
- PhD (or close to submission) or equivalent professional experience in computer vision or related area (Essential).

Experience

- Experience of undertaking original research in one of the following specific areas of computer vision: 3D vision, human pose estimation from video sequences, rigid/non-rigid structure from motion, stereo, image matching, factorization, 3D reconstruction of rigid/non-rigid objects from image sequences, rigid/non-rigid image registration, tracking (Essential).
- Good publication record in computer vision or a related discipline (Essential).

Knowledge

- Expert knowledge specific to the field of computer vision (Essential).
- Demonstrable knowledge of numerical optimization, parameter estimation, projective geometry, statistics (Desirable).
- Ability to maintain accurate and up to date records (Essential).
- Understanding of the research process (Essential).

Skills

- Ability to organise and prioritise own work and organise research within the project timetable (Essential).
- Ability to conceive novel techniques and implement and test them thoroughly (Essential).
- Good programming skills in MATLAB and C++ (Essential).
- Familiarity with Latex and Linux OS (Desirable).
- Excellent written scientific communication skills (Essential).
- Effective team work and ability to interact with a team and contribute to a strong and lively research group (Essential).
- Analytical skills (Essential).
- Good communication and presentation skills (Essential).

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.
- Must be able to travel to meetings abroad.