**UNIVERSITY COLLEGE LONDON**

**Job Description and Person Specification**

**Job Title**: Research Associate in Surgical Vision for Fetal Surgery

**Department**: Computer Science

**Reports to**: Dr. Danail Stoyanov

**Responsible to:** Prof. Sebastien Ourselin (Project Lead, CMIC), Prof. John Shawe-Taylor (HoD of CS)

**Duration** : 3 years in the first instance funded by the EPSRC/Wellcome Trust

**Salary:** UCL Grade 7, £32,699 - £39,523 per annum inclusive of London Allowance.

**Main Purpose of the Post:**

We are seeking a post-doctoral research associate to work on developing surgical vision techniques to advance real-time information processing of images acquired in utero using a fetoscope. The candidate will develop techniques which can be applied to the challenging data to perform image stitching and mosaicking, camera localization and 3D reconstruction, tissue tracking and blood vessel recognition.

The project is ambitious and widely scoped and therefore there will be exciting opportunities to link vision research to robotics and mechatronics, new methods for biophotonic imaging, advanced visualization and efficient computational processing.

**Duties and Responsibilities:**

* To undertake research as stated in the Main Purpose.
* To play an active role in the fetal project group and the UCL Surgical Vision group, contributing to meetings and overall activities.
* To prepare and present findings of research activity to colleagues, interested parties and at appropriate conferences.
* To help and support submission of research grant proposals.
* To contribute to the drafting and submitting of papers to appropriate peer reviewed journals.
* To participate in departmental and faculty seminars aimed at sharing research outcomes and building interdisciplinary collaboration within and outside the department.
* To assist with the supervision and teaching of MSc and PhD students within the group as requested.
* To carry out any other duties as are within the scope, spirit and purpose of the post.
* To actively follow UCL policies including equal opportunities and race equality policies;
* To maintain awareness and observation of fire and health and safety regulations;

As duties and responsibilities change the job description will be reviewed and amended in consultation with the post holder.

**Person Specification: Research Associate in Surgical Vision for Fetal Surgery**

|  |  |  |
| --- | --- | --- |
|  | **Essential** | **Desirable** |
| **Knowledge, Education, Qualifications**  **and Training**  Upper Second Honours degree (or equivalent) in Physics, Maths, Computer Science or comparable subject.  PhD in computer vision, medical image computing, biomedical engineering, or a comparable subject. | \*\*\*  \*\*\* |  |
| **Skills and/or Abilities**  Strong mathematical abilities  Strong problem solving abilities  Strong expertise in programming high-level languages (e.g. C/C++, Matlab)  Specialised in **at least two** of the following areas:   * Motion tracking and reconstruction * Detection and recognition * Geometric vision or photometric processing * Use of computer vision libraries and tools (OpenCV, PCL)   Ability to present results publicly in poster and platform presentations.  Ability to work independently.  Ability to work effectively within a collaborative environment.  Excellent written and spoken communication skills in English | \*\*\*  \*\*\*  \*\*\*  \*\*\*  \*\*\*  \*\*\*  \*\*\*  \*\*\* |  |
| **Experience**  Strong background in computer vision, image processing, or medical image computing.  Experience of publishing high quality research results.  Established publication track record | \*\*\*  \*\*\*  \*\*\* |  |