Division of Molecular Pathology

Postdoctoral Training Fellow – Machine learning

Sutton, Surrey

We seek a Postdoctoral Training Fellow to join the Yuan lab at The Institute of Cancer Research, London (ICR) and work on the TRACERx project in a collaboration with Prof. Charles Swanton at the Francis Crick Institute.

The main focus of the Yuan lab is to develop new computational approaches for studying cancer by fusing computer vision, machine learning and bioinformatics (www.yuanlab.org). Different from traditional cancer-centric approaches, we study cancer from a novel perspective: as evolving ecosystems. Aided by technological advances, we use ecological principles to help us understand why cancer is so difficult to treat – by studying not only cancer cells but also normal cells around them.

This is a rare opportunity to collaborate with world-leading teams on a perspective, pioneering study of lung cancers. You will lead the development of new machine learning systems for analysing digital pathological images and integrating image data with genomics. We expect this exciting project to enable the discovery of new biomarkers and clinical innovations to change the way we treat lung cancer.

You will join a team of computer scientists and bioinformaticians, working closely with clinicians in the vibrant centre of cancer research discovery and therapeutics at ICR London in the endeavour to cure cancer. You will enjoy the highly collaborative nature of this project, have the opportunities to learn about the latest biotechnologies and travel to conferences, and excel in coordinating between programming and broadening horizons in medicine.

Applicants must hold a PhD in Computer Science, Systems Biology, Ecology, Statistics or Engineering. Good programming skills, preferably in R, Matlab, Python or C, and experience in computer vision, machine learning or statistics are essential.

Appointment will be on a Fixed Term Contract for 3 years, with a starting salary in the range of £31,023* to £44,337 p.a. inclusive, depending on postdoctoral experience. The successful candidate will be based in Sutton, Surrey.

To apply, please upload your CV and covering letter (including the names and contact details of two referees) online via our website at: http://www.icr.ac.uk/jobsearch,

To apply please include the following to your application:

- A full CV with a publication List
- Covering letter including the names and contact details of two referees as part of application form
- Research plan (one to two pages outlining your current research interests and research plans for the next 3 years)

DUTIES AND RESPONSIBILITIES

- To develop new machine learning system for lung cancer histology images
- To contribute to the publication of high quality research in the form of papers, patents, and presentations at meetings.
- To work independently on a defined project and as part of a team, and to consult when appropriate.
- To communicate effectively with other members of the team and collaborators, where necessary, ICR and outside organisations.
- Be familiar with ICR's approach towards risk management including its policies and procedures, which require all staff to play an active part in identifying and managing risk.
- All staff must ensure that they familiarise themselves with and adhere to any ICR policies that are relevant to their work and that all personal and sensitive personal data is treated with the utmost confidentiality and in line with the General Data Protection Regulations.

Any other duties which may be required which are consistent with the nature and grade of the post.

This job description is a reflection of the present position and is subject to review and alteration in detail and emphasis in the light of future changes or development.

APPOINTMENT DETAILS

The appointment will be on a Fixed Term Contract for 3 years, with a starting salary in the range of £31,023* to £44,337 p.a. inclusive dependent on postdoctoral

experience. It is anticipated that the starting salary will be in the range from £31,023* to £36,798 p.a. inclusive.

*thesis submitted, awaiting PhD award

The successful candidate will be based in Sutton, Surrey.

ICR has a workforce agreement stating that the maximum length of employment for Postdoctoral Training Fellows should be no more than 7 years within ICR and no more than 10 years total postdoctoral employment (at ICR and elsewhere). Consequently, you should be aware that the length of contract offered will be limited by this agreement as well as the availability of funding.

PERSON SPECIFICATION

Post: Postdoctoral Training Fellow

Criteria	Essential or Desirable?
Education & Knowledge	
PhD in computer science, engineering, Systems Biology, Engineering, Ecology or Statistics or related subjects*	E
Knowledge in medicine	D
Good publication record	D
Experience	
Machine learning	E
Demonstrable experience in programming in Python, R, Matlab, C or equivalent languages	E
Demonstrable experience in computer vision, deep learning or statistics	E
Working with medical or histology images	D
Working in collaborative research	D
Skills	
Good interpersonal skills and the ability to interact effectively with collaborators	E
Demonstrated ability to interpret and present results	E
Proven excellent written communication skills	E
Proven ability to plan, organise & prioritise a busy workload to meet milestones within specific timelines	E

General	
Highly self-motivated with scientific curiosity and a keen desire to produce high quality scientific data	E
Committed to learning histological approaches	E

**** as a minimum requirement candidates must have submitted their thesis by the start date of their employment and been awarded their PhD within the six month probationary period.***