Candidate Information

Position: Research Fellow in Computer Vision
School/Department: School of Electronics, Electrical Engineering and Computer Science
Reference: 25/112929
Closing Date: Monday 10 November 2025
Salary: £41,519 - £45,349 per annum
Anticipated Interview Date: Monday 1 December 2025
Duration: 11 months

JOB PURPOSE:

To be a highly productive, ambitious and collaborative member of an interdisciplinary team using artificial intelligence to predict and explain conversion to age-related macular degeneration assisting in the development of research proposals and the planning and delivery of the research activity specifically computer vision, deep learning, and explainable AI.

The post will involve the development of novel deep learning models to analyse ophthalmic data for the purposes of predicting disease progression. The work is part of the "Using artificial intelligence to predict and explain conversion to age-related macular degeneration (AMD)" funded by the Rosetrees Trust Interdisciplinary Award. The successful candidate will work in an interdisciplinary team with researchers from AI (EEECS) and Centre for Public Health.

The post is a critical role, and as such, successful applicants will have responsibilities in independent research, planning, and working collaboratively with internal and external stakeholders of the project.

MAJOR DUTIES:

1. To develop novel deep learning approaches to model longitudinal sequences of high-dimensional OCT images to identify biomarkers for conversion of wet AMD (wAMD) to the fellow eye.
2. To develop computational models that are interpretable and provide intuitive explanations (e.g. utilising explainable AI methodologies).
3. To develop code using best software practices and liaise with software engineers in the translation of research code to demonstrable software.
4. Undertake research under supervision within a specific research project or as a member of a research team.
5. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.
6. Prepare, in collaboration with the team, material for progress reports, international conferences and journal publications, and present findings to external audiences to disseminate and publicise research findings.
7. In consultation with the project team, promote research milestones and outputs at national and international conferences and through social media (where applicable).
8. Assist the grant holder in the preparation of funding proposals and applications to external bodies.
9. Undertake supplementary duties relevant to the success of the project including administrative duties and additional training and development activities as required.

ESSENTIAL CRITERIA:

1. Have or about to receive a PhD in Computer Science or other fields relevant to the technical areas of the post (Candidates about to receive their PhD should provide proof that their viva is scheduled and confirmed by a supporting letter from their supervisor(s)/university).

2. Recent relevant research experience to include:
   - Experience developing novel deep learning methodologies (e.g. transformer models, Convolutional Neural Networks, Auto-encoder models, or LSTM networks).
   - Demonstrable ability to develop analysis pipelines for image data and knowledge of developing machine learning experiments with common challenges (e.g. noisy data, imbalanced datasets, missing data, etc.)
   - Experience in conducting research in machine learning and a publication record in line with stage of career in prestigious leading journals/conferences.
   - Working effectively as part of a research team in the development and promotion of the research theme.
3. Ability to contribute to broader management and administrative processes.
4. Contribute to the School's outreach programme by links with industry, community groups etc
5. Strong analytical and problem-solving skills.
6. Proven ability to communicate complex information clearly both verbally and written.
7. Proven ability to build relationships and participate in internal and external networks.
8. Ability to assess and organise resources.
9. Ability and willingness to travel to attend meetings with partners and conferences.

DESIRABLE CRITERIA:
1. Experience developing lightweight deep learning models.
2. Experience working with, and analysing, retinal images.
3. Experience in using HPC resources for data analysis.
4. Experience in managing a research project.
5. Experience in writing a funding proposal.

ADDITIONAL INFORMATION:
Informal Enquiries to Shuyan Li (shuyan.li@qub.ac.uk)