



UNIVERSITY OF  
LINCOLN

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JOB DESCRIPTION**

<b>JOB TITLE</b>	Post-Doctoral Research Associate in Computer Vision				
<b>DEPARTMENT</b>	Lincoln Institute for Agri-Food Technology				
<b>LOCATION</b>	University of Lincoln Campuses				
<b>JOB NUMBER</b>	COS968	<b>GRADE</b>	7	<b>DATE</b>	March 2023
<b>REPORTS TO</b>	Principal Investigator/Associate Professor in Robotics				

**CONTEXT**

The University of Lincoln is working towards an exciting project together with industry which will step change nitrogen and nutrient management for cereal farmers. The project will develop a novel digital platform targeted to drive nitrogen use efficiency in wheat with minimal yield loss. In addition, the platform will secure secondary income streams to farms, facilitate farm integration to environmental land management schemes and enhance food security by reducing dependency on nitrogen input costs and global cereal commodity prices. The platform will use state of the art machine learning techniques fusing data across multiple input sensors to support and inform farmer decisions. The platform will predict optimal nitrogen requirement based on local environmental conditions, forward weather forecasts and growth stage.

**JOB PURPOSE**

The Post-Doctoral Research Associate is responsible for conducting research on the project, as directed by the Principal Investigator, and is expected to operate with a significant degree of autonomy. They will not be expected to operate as an independent researcher.

The post holder may be required to help supervise the work of more junior researchers.

## KEY RESPONSIBILITIES

Literature Surveys
Undertake literature surveys and other investigations of the state-of-the-art, and prepare reports as required.
Programme of Research
Undertake a programme of research under the direction of the Principal Investigator, demonstrating a significant level of autonomy.  Lead in the production of high quality research outputs, including reports, papers and other publications of national/international standing.
Project Management
Perform project management activities, planning, scheduling, monitoring and reporting on progress of research projects.
Liaison and Networking
Identify and liaise with internal and external collaborators, and with colleagues in the Department, maintaining positive and effective working relationships.
Internal Research Activities
Participate in and help to organise internal research activities, including seminars, research meetings and conferences.
Continuous Professional Development
Undertake continuous professional development activities.
Grant Applications
Contribute to the production of grant applications.
Teaching Support
Engage in teaching support activities, up to a maximum of six hours per week, possibly including leading a small number of units (no more than two per annum).  Aid in the supervision of postgraduate research students.

**In addition to the above, undertake such duties as may reasonably be requested and that are commensurate with the nature and grade of the post.**

**ADDITIONAL INFORMATION**

Key working relationships/networks	
Internal	External
<ul style="list-style-type: none"><li>• Principal Investigator</li><li>• Head of Research Centre</li><li>• Head of School</li><li>• Other research and academic staff within the school</li></ul>	<ul style="list-style-type: none"><li>• Research collaborators</li><li>• Sponsors and clients</li></ul>



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PERSON SPECIFICATION**

JOB TITLE	Post-Doctoral Research Associate in Computer Vision		JOB NUMBER	COS968
Selection Criteria		Essential (E) or Desirable (D)	Where Evidenced Application (A) Interview (I) Presentation (P) References (R)	
Qualifications:				
PhD or equivalent (good candidates may be accepted with a PhD pending, subject to publication record)		E	A	
Extensive knowledge specific to project/area		E	A/I	
Experience:				
Extensive experience of relevant research methods		E	A/I	
Authorship of research outputs of national/international standing		E	A/I	
Experience of research in specific project area		E	A/I	
Teaching support		D	A/I	
Skills and Knowledge:				
Ability to design, conduct and project manage original research in the subject area		E	A/I	
Excellent written communication, including the ability to write reports and research outputs		E	A/I	
Ability to prioritise own workload and work to specified deadlines under pressure		E	A/I	
Ability to communicate complex subjects orally		E	A/I	
Skills specific to project/area		E	A/I	
Excellent mathematical and coding skills (C++/Python)		E	A/I	
Familiarity with key computer vision libraries (OpenCV/PCL/PyTorch).		E	A/I	
Relevant experience in computer vision and computer graphics		D	A/I	
Relevant experience in vision and 3D laser sensing technology		D	A/I	
Relevant experience in visual SLAM techniques		D	A/I	
Competencies and Personal Attributes:				
Flexible approach to workload		E	I	
Ability to work on own and as part of a team		E	I	
Enthusiasm and commitment		E	I	
Business Requirements:				
Travel within the UK/overseas		E	I	
Essential Requirements are those, without which, a candidate would not be able to do the job. Desirable Requirements are those which would be useful for the post holder to possess and will be considered when more than one applicant meets the essential requirements.				
Author	GC	HRBA	AH	