



**UNIVERSITY OF LINCOLN
JOB DESCRIPTION**

JOB TITLE	Post-Doctoral Research Associate in Computer Vision/Machine Learning				
DEPARTMENT	School of Computer Science				
LOCATION	Lincoln Campuses				
JOB NUMBER	CHS104	GRADE	7	DATE	March 2024
REPORTS TO	Dr James M Brown				

CONTEXT

We are looking for a passionate and motivated postdoctoral research associate (PDRA) to join an interdisciplinary team of researchers on a 3-year project "Using artificial intelligence for automated habitat assessment (AI-Hab)" funded by the Natural Environment Research Council (NERC).

JOB PURPOSE

Using tens of thousands of images from the long-term, nationally representative Countryside Survey (<https://www.ceh.ac.uk/our-science/projects/countryside-survey>), AI-Hab will leverage the latest advances in computer vision and deep learning to deliver an automated monitoring tool for habitat classification. Led by the University of Lincoln, this project is a collaboration between the School of Life and Environmental Sciences (Dr Lan Qie, project lead), the School of Computer Science (Dr James Brown, Dr Petra Bosilj), and UK Centre for Ecology and Hydrology (UKCEH). The resulting tool will be integrated into the E-Surveyor application developed by UKCEH.

Habitat recognition is essential to the delivery of Biodiversity Net Gain (BNG), which seeks to ensure that land development has a measurably positive (+10%) impact on biodiversity. The UK Habitat Classification (UKHab), upon which BNG metrics will be based, provides a consistent spatial framework for identifying habitat types. The use of such a categorisation scheme ensures that we can map and measure how habitats differ according to their location and conservation value, and in turn monitor how they change over time in response to management. Despite significant advances in the tools to recognise and monitor species, there are no equivalent tools for habitat recognition from ground-based imagery.

To support the delivery of AI-Hab, we are now seeking a full-time PDRA to join the School of Computer Science at the University of Lincoln. Working closely with colleagues in the School of Life and Environmental Sciences and UKCEH, the successful candidate will be responsible for the development, validation, and deployment of a deep learning model for habitat classification. There will be opportunities for the PDRA to develop their own research interests, attend high-profile international conferences, and publish their work in both computational and ecological venues.

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 Project Lead & Co-Leads, 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

Scope and dimensions of the role

The role offers the opportunity to engage in collaboration within an ambitious team of researchers, to develop state-of-the-art approaches for habitat classification, and to work closely with collaborators in the School of Life and Environmental Sciences and UKCEH. The post holder will be supported to produce and disseminate their research at leading international conferences and journals, with opportunities to implement their research outputs in real-world settings.

Key working relationships/networks

Internal	External
<ul style="list-style-type: none">• Project lead / project co-leads• Line manager• Head of Research Centre• Head of School• Other research and academic staff within the school	<ul style="list-style-type: none">• Research collaborators• Sponsors and clients



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PERSON SPECIFICATION**

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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
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	D	A/I
Teaching support/leadership experience	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
Technical skills specific to project/area	E	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:		
Willingness to travel for conferences/site visits	D	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	JB	PBP	AH
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