



UNIVERSITY OF
LINCOLN

UNIVERSITY OF LINCOLN JOB DESCRIPTION

JOB TITLE	Post Doctoral Research Associate in Robot Navigation and Mapping				
DEPARTMENT	Computer Science				
LOCATION	Brayford Campus				
JOB NUMBER	COS783	GRADE	7	DATE	February 2020
REPORTS TO	Professor Tom Duckett				

CONTEXT

These positions are externally funded by the Horizon 2020-funded Research and Innovation Actions projects BACCHUS and ILIAD, respectively. The projects aim to enable autonomous operation of intelligent mobile robots, which will continuously optimise their performance over time by learning from collected data. The University of Lincoln's contributions to the projects will include ensuring long-term operation of the systems in dynamic environments such as vineyards and warehouses, maintaining environment representations over time while learning and predicting relevant changes; systems architecture development and systems integration; and managing experimental work at test facilities, including the University's National Centre for Food Manufacturing and the University's Riseholme Agricultural Campus.

JOB PURPOSE

The 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.

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
Design and undertake 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
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 postholder will be expected to design, conduct and manage original research in the area of the project, which encompasses underpinning research topics including (but not limited to):

- AI methods for long-term robot autonomy;
- Persistent mapping and navigation;
- 3D perception and semantic mapping;
- Machine learning for autonomous robots;
- Systems integration, including ROS.

Candidates should have, or expect to soon obtain, a PhD in a relevant area. They must have excellent mathematical and coding skills (C++/Python, ROS). Postdoctoral positions will be fixed term for initially 2 years (with possible extension). The role offers the opportunity to engage in international collaboration within an ambitious team, to work with state-of-the-art robotic hardware and software, and to benefit from excellent support to produce and disseminate original research contributions at the leading international conferences and journals.

Key working relationships/networks

Internal	External
<ul style="list-style-type: none">• Principal Investigator• 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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UNIVERSITY OF LINCOLN PERSON SPECIFICATION

JOB TITLE	Research Associate	JOB NUMBER	COS738
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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
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
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
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:		

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	Marc Hanheide	HRBA	Stefan Pearce
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