UNIVERSITY OF LINCOLN
JOB DESCRIPTION

JOB TITLE	Project Researcher in Robot Learning from Human Interactions
DEPARTMENT	School of Engineering and Physical Sciences
LOCATION	Lincoln Campuses

JOB NUMBER	CHS196	**GRADE**	5	**DATE**	February 2025

REPORTS TO	Francesco Del Duchetto, Lecturer in Robotics and Autonomous Systems

CONTEXT

The post holder will work as part of a research team in the "Principles of Learning from Unstructured Human-Robot Interactions" EPSRC UK-RAS project.

This project is a UK-RAS multi-institution (Universities of Lincoln and Nottingham) effort addressing fundamental low TRL research challenges in robotics and AI that will develop novel theoretical frameworks for uncertainty quantification, intention inference, and transfer learning in human-populated environments.

JOB PURPOSE

This is a 0.4FTE position (14.8h per week) to support the project by conducting research on the principles of learning from unstructured human-robot interactions, specifically in the context of mobile autonomous navigation. The Project Researcher will work closely with the project team to analyse data, implement and evaluate robot learning algorithms, and contribute to the project's outputs.

KEY RESPONSIBILITIES

Contributions to Research

- Contribute to research projects under the direction of the Principal Investigator demonstrating an appropriate level of autonomy;

- Lead the implementation and evaluation of robot learning algorithms, such as Learning from Demonstration and Reinforcement Learning, including documentation and reporting;

- Support the deployment and testing of solutions on to real robot systems and robot software maintenance;

- Support to dissemination activities of research outcomes.

Project Management

- Support project management activities, planning, scheduling, monitoring and reporting on progress of research.

Liaison and Networking

- Identify and liaise with internal and external collaborators, and with colleagues in the Department, maintaining positive and effective working relationships.

Research Activities

- Participate in and help to organise internal research activities, including seminars, research meetings and conferences at the Universities of Lincoln and Nottingham.

Continuous Professional Development

- Undertake continuous professional development activities.

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

Applicants should have an MSc (or be currently enrolled in an MSc programme) in a relevant area. They must possess technical skills, including a substantial understanding of Machine Learning, AI and Data Processing/Analysis. Excellent coding skills are required (C++/Python) and experience with robotics frameworks (ROS) and robotic methodologies is welcome.

The post holder will be an integral part of the project team and will contribute to the successful completion of the project's objectives. The post holder will have the opportunity to develop their research skills, deepen their knowledge in the field of robotics and AI, and gain experience in working on a collaborative research project involving multiple institutions. They will work with state-of-the-art robotic hardware and software, and to benefit from excellent support to produce and disseminate original research contributions.

Key working relationships/networks	
Internal	**External**
- Project team members - Academic staff within the School of Engineering and Physical Sciences and across the University of Lincoln - Research staff within the Lincoln Centre for Autonomous Systems and across the University of Lincoln - Administrative staff within the School of Engineering and Physical Sciences	- Academic collaborators at the University of Nottingham - Academic members of the UK-RAS Network - Academics of the wider Robotics and Machine Learning community - Project stakeholders

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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:		
Honours degree in relevant subject (1st, 2.1 or equivalent), and/or Masters degree	E	A
Extensive knowledge specific to project/area	E	A/I
Experience:		
Experience of relevant research methods	D	A/I
Authorship of research outputs of national/international standing	D	A/I
Experience of working in a team	E	A/I
Experience of methodologies in specific project area	E	A/I
Experience of research in specific project area	D	A/I
Experience of supervising research students	D	A/I
Skills and Knowledge:		
Ability to contribute to 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

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	FDD	PBP	AH