



JOB DESCRIPTION

Job Title:	Research Associate in Artificial Intelligence / Robotics – Multi-Agent Path Finding
Department / Unit:	Department of Computer Science
Job type	Research
Grade:	7
Accountable to:	Professor Sara Bernardini
Accountable for:	N/A
Purpose of the Post	
<p>The position is funded by the two-year Innovate UK grant “VersaTile – Transforming warehousing and distribution with industry leading AI planning and system controls”, held by Prof Sara Bernardini. The project will be undertaken jointly with the companies Tharsus, one of the UK's most advanced robotics companies, and JR Dynamics, an SME based in North-East England. The project stems from the significant pressure currently faced by warehousing and distribution operations to transform their systems and processes in response to increasing market demand and throughput, intense competition, and consumer preference for more variety, quicker delivery at a lower cost. The project will tackle this problem by creating and integrating an industry-leading AI-planning capability and a critical infrastructure-scale control system. The project spans service robotics, high-frequency logistics, and AI-based control system development.</p> <p>The duties and responsibilities of this post include conducting individual and collaborative research on the themes of the project “VersaTile”, developing software based on the needs of the project, writing reports on the advancement of the project, and producing high-quality outputs for publication in high-profile journals or conference proceedings.</p>	
Key Tasks	
<ul style="list-style-type: none"> • To independently undertake advanced research in autonomous and intelligent systems, with a specific focus on the research project “VersaTile – Transforming warehousing and distribution with industry leading AI planning and system controls”. • To produce high-quality research reports as required by the funding body and to write publications for dissemination to the wider academic community. • To develop software based on the need of the research project “VersaTile – Transforming warehousing and distribution with industry leading AI planning and system controls”. • To run experiments based on the need of the research project “VersaTile – Transforming warehousing and distribution with industry leading AI planning and system controls”. To collaborate with the other members of the project “VersaTile”, including periodic visits to them and occasional secondment at their offices. 	
<p>Communication & networking</p> <ul style="list-style-type: none"> • Develop collaborative research with research colleagues on the project. • Communicate conceptual and complex ideas to a variety of audiences using appropriate media and methods. • Participate in internal networks as appropriate • Actively develop appropriate external contacts and networks relevant to future collaboration and funding opportunities. 	

Decision making, planning & problem solving

- Take responsibility for resolving problems affecting the delivery of the research project and planning future research projects that might emerge from the current project.
- Develop ideas for generating income, promoting the subject, disseminating, and applying the results of the research project as relevant.
- Manage projects relating to own area of research.

Analysis & research

- Develop research objectives, projects, and proposals.
- Conduct individual or collaborative research projects.
- Identify sources of funding and contribute to the process of securing funds.
- Extend, transform, and apply knowledge acquired from the research project to teaching, research and appropriate external activities.
- Extend, transform, and apply knowledge acquired from scholarship to teaching, research and appropriate external activities.
- Write or contribute to publications or disseminate research findings using other appropriate media.
- Make presentations at conferences or exhibit work at other appropriate events.

Teamwork, teaching & learning support

- Work flexibly and in collaboration with staff in RHUL and other relevant organisations involved in the project.
- Act as a responsible team member, leading where agreed, and develop productive working relationships with others.

Other Duties

The duties listed are not exhaustive and may be varied from time to time as dictated by the changing needs of the College. The post holder will be expected to undertake other duties as appropriate and as requested by his/her manager.

The post holder may be required to work at any of the locations at which the business of Royal Holloway is conducted.

Internal and external relationships

The following list is not exhaustive, but the post holder will be required to liaise with: members of the project "VersaTile", Innovate UK representatives, students, other members of staff within the school/department and College, academics in other institutions and industrial or professional contacts.

PERSON SPECIFICATION

Details on the qualifications, experience, skills, knowledge and abilities that are needed to fulfil this role are set out below.

Job Title: Research Associate in Artificial Intelligence / Robotics – Multi-Agent Path Finding

Department: Computer Science

	Essential	Desirable	Tested by Application Form/Interview
Knowledge, Education, Qualifications and Training			
PhD (or near completion of) in Artificial Intelligence, Robotics, or relevant subject area	X		Application Form
Proven knowledge of relevant research techniques and methodologies	X		Application Form/Interview
Excellent publication record	X		Application Form/Interview
Experience of working in industry in a research capacity		X	Application Form/Interview
Skills and Abilities			
Applied research experience in relevant area	X		Application Form/Interview
Excellent interpersonal, presentation and communication skills	X		Application Form/Interview
Proven problem-solving skills	X		Application Form/Interview
Software Development skills	X		Application Form/Interview
Potential to attract external research funds		X	Application Form/Interview
Experience			
Research experience in Artificial Intelligence, Robotics, or relevant subject areas	X		Application Form/Interview
Experience of qualitative and quantitative research methods and data analysis	X		Application Form/Interview
Practical experience of applying specialist skills and techniques required for the role	X		Application Form/Interview
Evidence of contributing to research bids		X	Application Form/Interview
Other requirements			
Excellent interpersonal / team working skills	X		Application Form/Interview
Ability to work and meet deadlines	X		Application Form/Interview
Proven research potential	X		Application Form/Interview