UNIVERSITY OF WARWICK

Job Description

Job title	Project Engineer – Automation and Applied AI
Department	WMG
Grade	6

Job purpose (a brief summary of the role)	We are seeking a motivated Project Engineer to join our research team focused on intelligent manufacturing automation and robotics. The successful candidate will support the development and deployment of applied AI solutions, including machine learning, computer vision, and large language models (LLMs), within real-world manufacturing contexts. You will be working in a small multi-disciplinary team with industrial collaborators to contribute to research projects related to the realisation of new manufacturing automation systems with a focus on applied AI, and digital-twins in the context of industrial automation and robotics.
Duties and responsibilities	1. Carry out research with particular emphasis on applied AI, and digital-twins in manufacturing automation. 2. Provide specialist technical recommendations, practical tools and design resolution advice on such manufacturing systems. 3. Sharing information with colleagues and producing recommendations. 4. Managing research aspects of the project including contributing to academic publications, technical reports and other presentations and dissemination methods. 5. To assist with the development and delivery of teaching and training materials to disseminate the research findings in a format that will encourage successful implementation. 6. Identify, operate and install suitable equipment to support the project objectives, carrying out suitable tests to evaluate the equipment performance effect on product to push forward the boundaries of current knowledge in each topic area. 7. Record and track the delivery of deliverables during research and development identifying routes for achievement of targets.

Person Specification

The Person Specification focuses on the essential and desirable knowledge, skills, experience and qualifications required to undertake the role effectively. This is measured by (a) Application Form, (b) Test/Exercise, (c) Interview, (d) Presentation.

Essential Criterion No.	Essential Criterion Description	Measured by
E1	An honours degree in a relevant subject (2:1 or above).	A
E2	Practical experience with robotics or automation systems.	A,C & D
E3	e.g., hands-on experience with robotics platforms (e.g., ROS/ROS 2), industrial automation (e.g., PLCs, robotic arms), or simulation tools relevant to manufacturing environments.	A,C & D
E4	Programming and software development, e.g., proficiency in Python and/or C++, with experience developing AI or automation software. Familiarity with development tools such as Git, Docker, or Jupyter Notebooks.	A,C & D
E5	Applied machine learning and computer vision knowledge.	A,C & D
E6	Working knowledge of AI/ML fundamentals (e.g., classification, detection, deep learning), with experience using common frameworks such as PyTorch, TensorFlow, or OpenCV.	A,C & D
E7	Familiarity with large language models (LLMs), e.g., awareness of how LLMs (e.g., GPT, Claude, LLaMA) can be used to support engineering workflows—such as automated documentation, code generation, or natural language interfaces to technical systems.	A & C
E8	Experience of implementing machine learning algorithms, e.g., for predictive maintenance, process optimisation, and anomaly detection.	A & C
E9	Ability to initiate, plan, organise, implement and deliver programmes of work to tight deadlines, together with the ability to report effectively on progress against plan.	A & C
E10	Good interpersonal skills, with the ability to work independently and as part of a team on research programmes.	A & C
E11	Good effective communication (oral and written) skills, presentation and training skills.	A & C
E12	Ability to deliver rapid, commercially focused results.	A & C
E13	Well-honed problem-solving skills, with experience of making recommendations for process improvements.	A & C
E14	A strong capacity to act upon their own initiative with a flexible approach to working.	A & C

Desirable Criterion No.	Desirable Criterion Description	*Measured by*
D1	A masters or doctorate level qualification or equivalent experience in a relevant research area.	A
D2	Some experience in development and delivery of training material.	A & C
D3	Ability in relevant project management.	A,C & D