

School of Science (Department of Computer Science), School of Architecture, Building and Civil Engineering & Keystone Lintels Ltd

Job Ref: REQ250843

Job title: Automation Engineer (KTP Associate)

Period: 24 months

Salary: £35,000 - £38,000 per annum (Starting salary to be confirmed on offer of appointment), plus £2000 per annum training budget

Application deadline: 12th October 2025

Key words: Artificial Intelligence, Engineering, Organisational Workflow

Project Title: To develop, integrate and deploy transformational AI enabled workflows within the Keystone Lintels engineering team, supporting resilient, agile information flows and decision making to deliver business growth. The project develops new R&D capabilities within Keystone Lintels and acts as a template for the rollout of new technologies within the wider company.

This is a 24-month Knowledge Transfer Partnership (KTP) project between Loughborough University and Keystone Lintels, funded by UKRI Innovate UK. It will be primarily based in Swadlincote Derbyshire, with periodic visits to additional engineering sites and Loughborough University.

This is an exciting opportunity for a forward-thinking and ambitious machine learning specialist to join a company that specialises in providing Lintels to the residential and commercial markets. Working with one of the biggest Lintel suppliers in the UK, you will be joining a company that finds ways to help make services to customers better, faster and more accessible for everyone.

About the project

This job role focuses on developing impactful, new, and modified work processes designed to leverage cutting edge AI technologies, to increase efficiency within the quotation and engineering design teams, reduce manufacturing waste through error reduction, and reduce time taken to fulfil orders.

The Associate will work closely with and be supported by the company's technical team and experts at Loughborough University, throughout the project. KTPs aim to help businesses improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK Knowledge Bases.

KTP Associate Role:

The Associate will be supervised by an academic team, led by Dr Russell Lock (School of Science, Department of Computer Science) and Prof Sergio Cavalaro (School of Architecture, Building and Civil Engineering). Dr Lock is an expert in applied Software Engineering with an emphasis on Information Modelling, and Prof Cavalaro is an expert in Civil Engineering. The Associate will form an integral part of the Keystone Lintels Research and Development team, working closely with the Keystone Lintels supervisory team and company partners. As a KTP Associate, the successful applicant will have access to a wide range of commercial, R&D and management training programmes, as well as technical training resources and facilities at Loughborough University.

Introduction to Keystone Lintels

Keystone Lintels Ltd was established in 1989 and have continuously expanded to now operate with 450 staff over three sites, 150 in Cookstown, Northern Ireland, 250 in Swadlincote, Derbyshire and 50 in Cwmbran, Wales. They are part of the Keystone Group that employ a further 2500 people over 27 sites worldwide.

Keystone Lintels manufacture steel/stainless steel lintels for the construction industry (sold primarily to builders' merchants and house builders). They currently have ~55% of the UK lintels market with a turnover of £70.5M in 2023 and net profit before tax of £5.7M. Keystone Lintels and the sector have significant capacity for growth on the face of national housebuilding programmes.

Our Vision

Keystone Lintels aim to produce a step change in industrialised construction in the UK. They plan to grow sales value while improving processes, via the deployment of new innovative products, production methods and construction approaches.

Loughborough University

Loughborough University is ranked in the top ten in the most recent Complete University Guide Guardian League Table and the Times Good University Guide. It has been awarded a record of seven Queen's Anniversary prizes for its research impact to society and UK industry and is somewhere anyone can realise their full potential.

School of Science, Department of Computer Science

Founded in 1974, the Department of Computer Science was one of the first university computing departments established in Great Britain. It is a part of the Loughborough University School of Science. The department has an excellent research record in AI, machine learning, robotics, computer vision, deep learning, data science, HCI, IoT, digital technologies, and wireless sensor systems. with projects funded by UKRI EPSRC, Innovate UK, Newton, EU, NHS, KTP and a wide range of industry. In addition to our strong track record in fundamental research, a particular focus of our research is applied research to support industry and create significant economic and social impact. A recent £1m upgrade of high-end GPU computing facilities and £5.8M DigiLabs now complement a £9m investment in our purpose-built research and teaching space.

In joining the highly ranked and fast-developing Department of Computer Science, the successful candidate will have access to a wide range of high-spec computing facilities, including HPC, high-spec deep learning machines, workstations and servers. They will also have full access to robotics and AI laboratories equipped with cutting-edge camera/vision systems, sensors, robots and software platforms. You will work with a strong research team in AI composed of over 30 staff, PDRAs and PhDs, and be supported through an excellent research and innovation environment.

School of Architecture, Building and Civil Engineering

With an international reputation for research excellence and a track record in high quality training, the School of Architecture, Building and Civil Engineering at Loughborough University is one of the largest centres for built environment education in the UK. The school brings together outstanding facilities, superb teaching and commercial industry links across a wide range of sectors. With experts across a range of disciplines including Architecture, Transport and Urban Planning, Construction Management, and Civil Engineering the School provides training, research, and consultancy to shape the world we live in, from the design of buildings resilient to climate change, through to the management of contractors during construction and the planning, operation, and maintenance of transport systems.

On behalf of Loughborough University, the School is taking the lead on £1.3 million of investment by the UK Government in infrastructure delivery and maintenance, drawing on its intensive innovative and industry-relevant research and enabling numerous research opportunities around the themes of infrastructure resilience to environmental and usage change, and emissions reductions.

Job Description and Person Specification

Job Grade: Other

Job Purpose

The KTP Associate will:

- Work with stakeholders, including Keystone Lintels senior leaders, technical staff, engineering teams and academic experts, developing networks across the business and understanding of project needs and deliverables.
- Determine technical scope, objectives, specifications, and opportunities for technology advancement.
- Explore state-of-the-art technology in Machine Learning approaches, including LLM integration in pursuit of the project objectives.
- Develop new organisational workflows and modify existing organisational workflows to support the engineering team, integrating machine learning approaches.
- Deploy developed approaches for end user evaluation and prepare staff training materials.

Job Duties

- Carry out the KTP project tasks and deliver the outcomes as outlined in the project workplan.
- Manage the project and disseminate key deliverables/findings to the project team and key stakeholders, to facilitate commercialization of the product.
- Undertake KTP management training, as well as personal development training and courses as deemed necessary.
- Prepare research papers for publication in journals/conferences, in line with the expected scholarly activities of the University Research Staff, and in accordance with the commercial sensitivity of collaborating companies.
- Assist with the capture of intellectual property.
- Travel to Company business partners within the UK and possibly overseas, when necessary.
- To undertake such other duties as may be reasonably requested and that are commensurate with the nature and grade of the post.
- Document work regularly, ensuring knowledge and outcomes are transferred to other team members at Keystone Lintels, embedding, recording, creating a repository throughout the project.
- Write reports and presentations, sharing these as project updates at supervision meetings, LMCs, advisory panel meetings, and other necessary forms of engagement and dissemination.

Points to Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

Applicants must have completed their last qualification (degree, masters, PhD), no more than five years before the closing date.

Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

We actively encourage applicants from women, disabled and Black, Asian and Minority Ethnic candidates, who can bring their experiences and voices to the partnership.

Organisational Responsibility

Reports to the KTP Lead Academic: Dr Russell Lock

Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

1 – Application

2 – Online interview

3 – Presentation & Interview

Essential Criteria

Area	Criteria	Stage
Experience	Experience in Machine Learning approaches	1,2,3
	Experience working on software development projects	1,2,3
Skills	Excellent programming skills in a mainstream High Level programming language such as Python, C/C++	1,2,3
	Experience authoring original work, technical reports and presentations	1,2,3
	Good project management and team-work skills	1,2,3
	Strong real-world problem-solving skills	1,2,3
Qualifications	PhD (or near completion) or MSc in Computer Science or closely allied disciplines	1,2,3

Desirable Criteria

Area	Criteria	Stage
Knowledge	Knowledge of LLM integration approaches/strategies	1,2,3
Experience	Experience in deep learning and deep learning platforms (e.g. PyTorch, TensorFlow) for computer vision tasks	1,2,3
	Experience of working on research projects.	1,2,3
	Experience working in Civil Engineering or on construction related topics	1,2,3
Skills and abilities	Experience working with technical staff in other subject domains in a commercial environment.	1,2,3
	Experience working with CAD software, ideally SolidWorks/DriveWorks	1,2,3
Qualifications	Licenced to drive in the UK	1,2,3

Conditions of Service

The position is FULL TIME and FIXED TERM for 24-months. Salary will be between £35,000 - £38,000 per annum at a starting salary to be confirmed on offer of appointment. The successful applicants will also receive a £2,000 per annum training budget each.

The appointment will be subject to the University's normal Terms and Conditions of Employment for Academic and Related staff/Operational and Administrative staff, details of which can be found [here](#).

We strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN see <http://www.lboro.ac.uk/services/hr/athena-swan/>.