

Department of Computer Science, School of Science
Business School
Nationwide Air Conditioning
Loughborough University

AI Systems Engineer (KTP Associate)

Job Ref: REQ251005

Period: Full time, fixed term for 24 months

Salary: £38,000 - £40,000 per annum (Starting salary to be confirmed on offer of appointment), plus £2000 per annum training budget

Key words: machine learning, deep learning, AI, artificial intelligence, LLM, data analytics

About the project

This is a 24-month Knowledge Transfer Partnership (KTP) project between Loughborough University and Nationwide Air Conditioning, funded by UKRI Innovate UK.

The project is to develop an AI-powered system that automates the generation of service and project quotes based on defect inputs, and real-time supply chain performance, embedding decision-making algorithms and learning mechanisms into business operations, whilst moving away from manual and repetitive tasks, and toward automation grounded in historical data and real-time inputs. The project will create a market-ready AI product capable of reducing quotation turnaround from days to minutes.

This is an exciting opportunity for a forward-thinking and ambitious specialist in computer vision and machine learning to join a company that specialises in providing HVAC Solutions to Clients. Working with Clients from the biggest retail, hospitality, commercial and leisure sectors in the UK, you will be joining a company that offers 24/7 service, enhancing environments and providing optimal performance.

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 Base.

KTP Associate Role:

The KTP will integrate multi-criteria decision-making logic and machine learning models to match defects with suitable solutions and accurately estimate time and cost. The system will incorporate supply chain optimisation algorithms that dynamically evaluate supplier options based on lead time, service performance, transport costs, and delivery reliability.

The KTP Associate can either be based at the NAC Head Office in Agusta House, Commerce Way, Edenbridge, Kent, TN8 6ED or the NAC London office at 224 Shoreditch High St, London, E1 6PJ. There will also be some travel to Loughborough University, spending time with the academic teams in the Department of Computer Science and the Business School. The Associate will be supervised by an academic team, led by Lead Academic Prof Donato Masi and Academic Supervisor Dr George Vogiatzis, who are experts in their academic fields.

The Associate will form an integral part of the Research and Development team at NAC, working closely with the 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 Nationwide Air Conditioning

Nationwide Air Conditioning is an established provider of specialist air conditioning and climate control solutions, operating across the UK with 140 employees across 6 offices from Kent to Scotland. They were also winners at the RAC Awards for 3 consecutive years.

The company generates revenue primarily through remedial servicing, maintaining, designing and installing commercial air conditioning systems, serving customers in sectors such as retail, leisure, hospitality, commercial and industrial. Service offerings include planned preventative maintenance contracts, reactive breakdown support, energy-efficient system upgrades, and compliance-based inspections.

Loughborough University/Department Summary

Loughborough University is ranked in the Top 10 in the most recent Complete University Guide Guardian League Table and the Times Good University Guide. Its position is confirmed through its outstanding research & innovation in science and engineering, and its world-class research facilities. It has been awarded a record of seven Queen's Anniversary prizes for its research impact to society and UK industry.

Founded in 1974, the **Department of Computer Science** is 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. 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.

The Business School has an underpinning belief, that to face current challenges, we need to rethink the way we approach business, to better balance societal, environmental, and economic priorities. This leads to a purpose, which is about 'raising the game' of business, which we'll achieve through challenging practice, policy, and performance. Our mission builds on our strengths as 'we turn theory into practice by bringing together deep partnerships with purposeful organisations, career accelerating education and world-leading research'. Loughborough Business School has engaged with and supported Small and Medium Enterprises (SMEs) and start-up businesses since 2014. The school achieved the Small Business Charter award in 2014 (extended in 2024 for five years), recognising commitment to provide SMEs with research-informed growth and entrepreneurship support to enhance their productivity and contribution to the broader economy. The School conducts research across the full range of sub-disciplinary areas within business and economics, with research strengths in Information Management, Management Science and Operations, Marketing, Work and Organisation, Accounting and Finance, International Business, Strategy and Entrepreneurship, and Economics.

Job Description and Person Specification

Job Grade: Other

Job Purpose

The KTP Associate will:

- Work with stakeholders, including NAC senior leaders, technical multi-disciplinary scientists, commercial, sales, marketing teams, clients 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 agentic LLMs.
- Develop a system for automating the process of producing quotations for building/ servicing/ repairing large scale climate control systems.
- Conduct experiments, testing, and evaluation for the developed system for commercial trials and measure its impact.
- Document work regularly, ensuring knowledge and outcomes are transferred to other team members at NAC, 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.

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.

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 latest 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: Prof Donato Masi

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 – Presentation
- 3 – Interview

Essential Criteria

Area	Criteria	Stage
Experience	Experience in developing solutions using AI and LLMs	1,2,3
	Algorithm development and software engineering	1,2,3
	Design and documentation of software architecture and application workflow	1,3
Skills	Solid programming skills in machine learning and AI (Python)	1,2,3
	Design, develop, code, test, debug and validate software system	1,3
	Analyse and enhance efficiency, stability and scalability of system resources	1,3
	Integrate and validate new product designs	1,2,3
	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	1,3
Qualifications	PhD (or near completion) or MSc in Computer Science or closely allied disciplines	1,3

Desirable Criteria

Area	Criteria	Stage
Knowledge	Knowledge of agentic technologies (one or more of RAG, Langgraph/Langchain, MCP etc)	1,3
	Knowledge of business processes around procurement and quotations	1,3
	Knowledge of the climate control industry	1,3
Experience	Experience in delivering end-to-end AI solutions	1,3
	Experience of working in research and development projects.	1,3
Skills and abilities	Support software QA and optimise I/O performance.	1,3

	Ability to take part in collaborative activities and work with technical staff in other subject domains in a commercial environment.	1,3
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Conditions of Service

The position is FULL TIME and FIXED TERM for 24 months. Salary will be between £38,000 - £40,000 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/>.