

## Loughborough Business School

# Senior Research Associate – Advanced AI Models and Optimisation Algorithms for Supply Chain Planning and Scheduling

**Post: Full-time role for 9 months from 1<sup>st</sup> July 2026**

**Job Ref: REQ260348**

**School/Department summary:** Loughborough Business School is a vibrant, research-led school with a strong reputation for academic excellence, real-world impact and an inclusive, collaborative culture. It is among an elite global group of business schools to hold triple accreditation from AACSB, EQUIS and AMBA, and was named a PRME Champion (2024–2025) for its leadership in responsible management education. The School also holds Small Business Charter accreditation and a Bronze Athena Swan Award, reflecting its commitment to entrepreneurship, equality and positive societal impact, and offers a supportive and forward-looking environment in which staff and students can thrive.

**Project Description:** This project, **Smart Slots: AI-Native Factory Scheduling for SMEs**, is based at Loughborough Business School and addresses the challenge of helping manufacturers meet the UK's Net Zero 2050 commitment while improving productivity and reducing waste. Funded by Innovate UK, the project is led by Dr Kamran Ali Chatha, Dr Grammatoula Papaioannou and Professor Jan Godsell, working in close collaboration with an industrial technology partner specialising in supply chain planning and manufacturing decision-support software, alongside a network of SME manufacturing collaborators. The project aims to develop advanced AI (machine learning, generative AI and LLMs) based models and optimization algorithms that integrate carbon and productivity objectives into factory planning and scheduling. The post holder will be an integral member of the project team, contributing to analytical modelling, AI and optimisation methods, and software development, while working closely with academic colleagues and industry partners to ensure practical relevance and impact for SMEs.

## Job Description

**Job Family and Grade:** Specialist and Supporting Academic Grade 7

### Job Purpose

The post holder will develop, analyse and implement AI and optimisation models for production and supply chain planning in SMEs, with a particular focus on their integration into the software products of an industry technology partner. They will work closely with academic and industry collaborators to ensure models are robust, usable and aligned with real-world manufacturing contexts.

### Job Duties

- Lead the development, analysis and validation of advanced AI and optimisation models for production and supply chain planning, with relevance to SME manufacturing and Net Zero objectives.
- Work independently and collaboratively with academic colleagues and industry leads to shape research direction, generate insights and translate analytical findings into actionable, practice-focused solutions.
- Make a substantive contribution to high-quality research outputs, including research and technical reports, policy briefings, peer-reviewed journal publications and conference presentations.
- Play an active role in stakeholder engagement and knowledge exchange, working with industrial partners, SME manufacturers, policymakers and academic communities to maximise research impact and uptake.

## Job Responsibilities

- Take responsibility for the day-to-day management and delivery of the project's programme of work.
- Formulate detailed work plans and research activities based on broad objectives and guidance agreed with the project team.
- Monitor progress against project milestones, providing regular updates and making informed recommendations on next steps.
- Attend and actively contribute to project meetings (online and in person), and present findings to internal and external stakeholders as required.
- Lead the preparation and authorship of research outputs suitable for publication in high-quality, peer-reviewed academic journals.
- Attend, contribute and present at national and international conferences.
- Support project visibility by contributing to dissemination, project promotion and public engagement activities.

## General and Administrative

- Work effectively with relevant administrative, technical and academic staff in the School and across the University.
- Engage in training programmes in the University (e.g., through Staff Development) which are consistent with ongoing professional development, and the needs and aspirations of the project team and those of the School.
- Maintain confidentiality at all times and ensure full compliance with University policies, contractual obligations and intellectual property agreements.
- Carry out specific other duties as may be reasonably requested by the project leaders 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 outlined in the document.

## Organisational Responsibility

Reports to Dr Grammatoula Papaioannou, Reader in Business Analytics and Dr Kamran Ali Chatha, Reader in Operations and Supply Chain Management, Loughborough Business School

## Person Specification

Your application will be assessed based on the essential and desirable criteria listed below.

Applicants are strongly encouraged to explicitly demonstrate how they meet each essential (and desirable) criteria at the application stage. The criteria that you need to demonstrate in your application will be listed as Stage 1 in the table below.

Stages of assessment are as follows:

- 1 – Criteria measured at Application
- 2 – Criteria measured at Test/Assessment Centre/Presentation
- 3 – Criteria measured at Interview

## Essential Criteria:

Area	Criteria	Stage
Experience	Extensive experience in advanced quantitative modelling, including optimisation, machine learning, generative AI and LLM with excellent programming skills and the ability to analyse and interpret complex research data at an advanced level.	1, 2, 3

	Substantial experience working in an academic research environment or equivalent senior-level industrial/applied research setting, with evidence of independent contribution to research design and delivery.	1, 3
	Experience of leading or significantly contributing to knowledge exchange, impact or translational activities, engaging with non-academic stakeholders.	1, 3
	Demonstrated experience of research reporting, documentation and dissemination, including technical documentation, and scholarly outputs.	1, 2, 3
Skills and abilities	Excellent academic writing and editorial skills, with a proven ability to produce high-quality outputs and to communicate complex technical concepts clearly to academic, policy and industry audiences.	1, 3
	Good written and oral communication skills, including the ability to present research findings authoritatively to specialist and non-specialist audiences.	1, 2, 3
Training	Commitment to continuous professional development, including willingness to undertake further training, adopt new methodologies and contribute to the development of best practice within the research group.	1, 3
Qualifications	PhD in a relevant discipline.	1
Other	Demonstrated commitment to the University's Equality, Diversity and Inclusion principles and practices.	1,3

**Desirable Criteria:** These are skills, experience and competencies that are additional extras that may be used to narrow the pool down if we receive a high volume of applications all meeting the essential criteria.

Area	Criteria	Stage
Experience	A strong track record of authoring high-quality research outputs, including peer-reviewed journal articles, conference papers, and/or substantial technical or policy reports.	1, 3
	Experience of working within the UK Higher Education sector, with a good understanding of the Research Excellence Framework (REF), particularly research quality, impact and environment.	1, 3

## Conditions of Service

The appointment will be subject to the [University's Terms and Conditions of Employment](#) relevant to the job grade.

## Shared University Responsibilities

As a member of the Loughborough community, you are expected to:

- Take reasonable care of yourself, others and the environment, and to prevent harm by your acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Sustainability Policies & Procedures.
- Support and contribute to the University's commitment to principles of equity, diversity and inclusion (EDI) while carrying out all duties, behaving in a manner that treats others with dignity and respect and upholds every person right to lawful freedom of expression, freedom of speech and academic freedom. Further information about EDI at Loughborough and our strategic aims is available on our website.

## Our Purpose, Vision, and Values

Our purpose, Vision and Values underpin all that we do and shape how we work together at Loughborough.

We're proud to promote our values: **Adventurous, Collaborative, Creative, Authentic** and **Responsible**. Our people bring these values to life every day, and they are central to the positive and supportive culture that makes Loughborough unique.

If you join us, you'll be encouraged to bring these values to life in your own work and contribute to the positive, supportive culture that makes Loughborough unique.

Read more about our [vision and values](#).

## Our Accreditations



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.



We are proud to be a [Race Equality Charter Member](#). The Charter aims to improve the representation, progression and success of all minority ethnic staff and students within higher education and address issues of racism within higher education institutions (HEIs).



We are proud to be a Disability Confident Employer and have adopted a proactive approach to employing disabled people and to creating a more diverse workforce. We ensure that our recruitment processes are inclusive and accessible. We guarantee to offer an interview to all applicants who have declared themselves with a disability, provided they meet the essential criteria for a role. We proactively anticipate and provide reasonable adjustments and support existing employees who acquire a disability or long-term condition to thrive in the workplace.



We are a real living wage employer, and our Living Wage Employer Mark shows our commitment to paying our staff according to the cost of living.



We are proud supporters of the [City of Sanctuary movement](#) and delighted to be recognised as a University of Sanctuary. This national network brings together, university staff, lecturers, academics and students, who together work to make Higher Education institutions place of safety, solidarity and empowerment for people seeking sanctuary.

**As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.**