

Research & Knowledge Exchange
**School of Science, Engineering &
Environment**

Job Opportunity
**Artificial Intelligence & Machine Learning
Engineer / KTP Associate position**

**R&B Switchgear Group
– Heywood, OL10**

**Overview, Job Description and Person
Specification**



University of
Salford
MANCHESTER

Knowledge Transfer Partnership (KTP) Associate with R&B Switchgear Group

Overview

In collaboration with R&B Switchgear Services Ltd, the University of Salford has been awarded a 36-month Knowledge Transfer Partnership (KTP). This position is central to the development and implementation of advanced artificial intelligence technologies that will enhance the way R&B Switchgear operates and delivers complex engineering projects.

The project will develop an innovative AI-enabled solution for complex, customer-specific engineering and operational processes. By automating labour-intensive engineering activities, the platform will improve productivity, consistency, scalability and competitiveness across the business.

R&B Switchgear Services Ltd is a leading UK manufacturer and service provider specialising in low-voltage switchgear and power distribution systems, serving customers across sectors including healthcare, infrastructure, utilities, energy, manufacturing and data centres. As customer requirements become increasingly complex, the business requires new digital capabilities that will support growth while maintaining quality, compliance and engineering excellence.

The position will be based within R&B Switchgear's operations at Switchgear House in Heywood, Greater Manchester; however, the Associate will be required to travel regularly to the University of Salford for project meetings, training and collaboration with the academic team. The successful candidate will work across operational, engineering, IT and commercial teams, gaining valuable experience while leading a strategically important digital transformation programme.

The project aims to develop a suite of bespoke AI technologies that combine computer vision, natural language processing and large language models to analyse complex engineering information and streamline time-intensive processes. While R&B possesses substantial expertise in electrical engineering, switchgear manufacture and project delivery, it currently lacks specialist expertise in advanced artificial intelligence, safe AI and engineering-focused machine learning. This KTP will bridge those capability gaps and establish long-term digital innovation capability within the organisation.

This is an opportunity to lead a significant technology transformation programme while receiving comprehensive professional development and training. The project will be supported by academic experts from the University of Salford, providing access to leading research and specialist expertise in AI, machine learning and digital transformation.

Job Purpose

This KTP will develop and embed advanced artificial intelligence capabilities that transform the way R&B Switchgear operates, interprets technical documentation and delivers

engineering projects.

The project will create innovative AI systems capable of analysing complex engineering information across visual and text-based sources. These solutions will increase efficiency, improve consistency and streamline time-intensive engineering and operational activities.

By embedding AI technologies throughout the estimation workflow, R&B expects to significantly improve operational efficiency, increase capacity and establish a competitive advantage within the electrical engineering sector. The project will also create new organisational capabilities in artificial intelligence, data engineering, safe AI and digital automation.

The Associate will play a key role in transferring knowledge into the organisation, ensuring new technologies, processes and skills are successfully embedded and adopted by engineering, operational and operational teams. This will support long-term business growth and establish a platform for future digital innovation.

Beyond the KTP, the business intends to continue developing and refining these technologies, ensuring that AI capabilities become a core component of future operations and strategic development.

Responsibilities

The Associate will take on the challenging role of managing this 36-month programme of research, development and implementation.

The key objectives for this KTP Project are the following:

1. Gain a detailed understanding of R&B Switchgear's products, systems, processes and estimation workflows.
2. Develop and implement AI solutions capable of analysing complex engineering information across multimodal sources.
3. Develop computer vision, natural language processing and large language model applications to streamline time-intensive engineering and operational activities.
4. Create secure, safe and auditable AI systems suitable for use in engineering and manufacturing environments.
5. Develop and implement data engineering, integration and deployment frameworks to support long-term use of AI technologies.
6. Develop and embed AI, machine learning and digital innovation capabilities within R&B Switchgear through training, documentation and knowledge transfer activities.

This Job Description is a guide to the work you will initially be required to undertake. It may be changed from time to time to meet changing circumstances. It does not form part of your Contract of Employment.

We are seeking a candidate committed to continuing Personal/Professional Development and able to engage with appropriate development activities as required for the role. For example, KTP project management training, Data Protection training and any other identified appropriate essential learning opportunities. As part of the role there will be regular performance development and monitoring to support and enable the associate to develop essential skills and knowledge.

Person Specification

The successful candidate should demonstrate the following, which are 'Essential' (E) or 'Desirable' (D)

Qualifications

1. A minimum 2.1 BEng/BSc in in Computer Science, Artificial Intelligence, Data Science, Machine Learning, Software Engineering or a closely related discipline. (E)
2. A relevant postgraduate qualification, such as an MSc or PhD in Artificial Intelligence, Machine Learning, Data Science, Computer Vision or a related subject. (D)

Background, Experience & Knowledge

3. Machine learning and artificial intelligence techniques, with the ability to apply them to real-world technical or business problems. (E)
4. Computer vision techniques for interpreting diagrams, drawings, image-based documents or structured visual information. (E)
5. Natural language processing, information extraction or large language models for interpreting technical text, specifications or documents. (E)
6. Multimodal AI approaches that combine visual and textual information to support decision-making or workflow automation. (E)
7. Python programming and common AI/ML frameworks such as PyTorch, TensorFlow, Scikit-learn, Hugging Face or similar. (E)
8. Data engineering, including cleaning, structuring and preparing complex or variable datasets for model development and validation. (E)

9. Safe AI, model interpretability, confidence scoring or human-in-the-loop validation. (D)
10. Cybersecurity, secure AI deployment, data protection or responsible AI principles. (D)
11. APIs, system integration, cloud or on-premise deployment, model monitoring or MLOps practices. (D)
12. Working in regulated, safety-sensitive, engineering, manufacturing or infrastructure-related environments. (D)

Skills & Competencies

13. Excellent analytical and problem-solving skills, with the ability to work through technical uncertainty and develop practical solutions. (E)
14. Ability to build effective working relationships across estimating, engineering, IT/Digital, finance and senior leadership teams. (E)
15. Strong organisational and project management skills, including the ability to manage milestones, risks, testing and stakeholder expectations. (E)
16. High attention to detail, particularly where AI outputs are used to support engineering, pricing, compliance or commercial decisions. (E)
17. Ability to support organisational change, including staff engagement, training, documentation and adoption of new AI-enabled workflows. (E)