University of Salford MANCHESTER

Job Description

Role Title:	AI and Data Engineer (KTP Associate Position
School / Dept:	School of Science, Engineering and Environment
Salary:	£35,000 - £42,000
Full or Part time:	Full / Part time
Hours:	36.25
Partner Company:	TSK Group – Salford Quays, M50 2UW

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Overview

This KTP will embed advanced AI, NLP, and data engineering expertise within TSK Group to enable the development of a cross-supplier, AI-powered product metadata platform. This is a transformational project designed to replace fragmented manual processes with an integrated digital system that enhances design efficiency, sustainability performance, and national scalability.

The Associate will be fully embedded at TSK Group, acting as a bridge between cutting-edge AI research and real-world industry deployment.

You will be supervised by TSK's Head of Digital Transformation and the University's AI specialists and lecturers (Dr Taha Mansouri and Dr Ali Alameer).

Role Purpose

To design, develop, deploy, and embed a bespoke AI-enabled platform capable of:

- Extracting, validating, and structuring product data
- Building intelligent search and reasoning tools for designers
- Automating sustainability and compliance documentation
- Integrating with BIM and digital design workflows
- Supporting organisational change and digital transformation

The role involves research, prototyping, development, user engagement, testing, and training, progressing to a production-ready solution integrated across TSK's operations.

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Principal Duties & Responsibilities

You will take on the challenging task of project managing this 36-month programme of research, development and implementation. This is an opportunity to become a key player within the business with an awareness of strategic and operational decision-making processes.

The key objectives for this KTP Project are the following:

- Gain a deep understanding of TSK's business goals, workflows, and current product sourcing processes, particularly the manual collection, validation, and organisation of supplier product information used by design, sustainability, and delivery teams.

- Lead the requirements gathering and detailed specification of an AI powered product data platform, mapping user needs across design, sustainability, digital transformation, and technical delivery to define system architecture, data models, and integration points.

- Design and implement advanced machine learning, natural language processing, and data extraction models capable of automatically aggregating, structuring, and validating product metadata from diverse supplier documents and formats.

- Develop and deploy a visual and user-friendly functional Minimum Viable Product (MVP) for the product directory platform, incorporating AI driven search, structured metadata, compliance checks, and compatible outputs for real world testing within live TSK projects.

- Drive user training, change management, and knowledge transfer across TSK, ensuring designers, sustainability teams, and operational staff understand and adopt the new digital workflows and tools.

- Support the long term embedding, enhancement, and commercial exploitation of the solution, enabling TSK to scale nationally, improve sustainability compliance, and explore future opportunities such as licensing, consultancy tools, and expanded AI enabled workflows.

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 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 follows on next page

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Person Specification

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

Qualifications

1. 2:1 BSc/BEng in Computer Science, Data Science, or a related discipline (E)

2. A postgraduate qualification (MSc or PhD) in AI or Data Science (D)

Background and Experience

3. Proven ability to design and implement AI-driven data-extraction and structuring pipelines, including NLP, Computer Vision, and OCR models, to process complex supplier documents and convert unstructured inputs into clean, structured product metadata (E)

4. Experience building intelligent search and retrieval systems, including vector search, embeddings, feature matching, retrieval-augmented generation (RAG), and agentic AI models applied to real-world datasets such as product specifications, compliance documentation, and sustainability credentials (E)

5. Strong software engineering skills, with proficiency in Python and deep learning frameworks, LLMs development, agentic AI architectures and hands-on experience building scalable, testable, well-documented ML codebases suitable for production environments (E)

6. Experience building/training/tuning/optimising deep learning models for real-world deployment, ensuring robustness, performance, and maintainability within business-critical workflows (E)

7. Ability to collaborate with multidisciplinary teams, translating technical findings into practical tools for designers, sustainability specialists, and digital transformation teams (E)

8. Experience developing conversational AI interfaces or chat-based assistants, particularly those used for product lookup, technical queries, or workflow support in commercial or design-focused settings (D)

9. Experience with MLOps, deployment, and model lifecycle management, including containerisation (Docker/Kubernetes), CI/CD workflows, and versioning of models and datasets (D)

10. Experience developing front end user interaction tools or dashboards (e.g., Streamlit, React.js, Next.js), integrating ML inference APIs, and supporting real-time or near-real-time user interactions (D)

Skills and Competencies

11. Exceptional ability to communicate complex technical information and concepts clearly and concisely to non-technical stakeholders and collaborate across departments and levels of seniority (E)

12. Be highly organised, adaptable, and capable of managing competing priorities in a fast-paced SME environment (E)

13. Excellent organisational skills, with an ability to prioritise issues and multitask according to business need (E)