

Generative AI and Intelligent Systems Engineer (KTP Associate)

School / Department:	School of Architecture, Built Environment, Engineering and Computing	Grade:	£38,000 - £42,000
New appointees to Birmingham City University will ordinarily be appointed at the entry point of the appropriate grade			
Responsible to:	Academic Lead	Responsible for:	N/A

Job Purpose

This position forms part of the Knowledge Transfer Partnership (KTP) programme co-funded by Innovate UK and Hockley Mint Limited (HM). The Generative AI and Intelligent Systems Engineer (KTP Associate) will work on a 26-month collaborative innovation project to design, develop, and implement a personalised e-commerce platform that enables intelligent jewellery co-creation, generative 3D design, and AI-driven business automation for Hockley Mint Limited. The Associate will integrate advanced AI, generative design, and autonomous agent technologies into the company’s digital platforms.

The Project

The project focuses on developing an AI-enabled adaptive recommender system to deliver a commercially deployable hyper-personalisation suite embedded within HM’s e-commerce platform. The project will leverage Large Language Models (LLMs), Multilingual NLP pipelines, and Genetic AI recommender systems and Explainable AI (XAI) techniques.

Main Activities and Responsibilities

The successful candidate will lead the design, development, and deployment of the AI-enabled hyper-personalisation suite for Hockley Mint. The position is for 26 months. The expected start date is as soon as is practical.

The Associate will work on:

- Designing the system architecture (presentation, application, data, integration layers)
- Developing multilingual conversational AI
- Building NLP generative rendering pipelines
- Developing AI-driven 3D generation and rendering systems
- Designing and implementing ETL/data pipelines
- Integrating AI systems into HM’s existing digital platforms
- Conducting market analysis and business model redesign
- Developing training materials and embedding knowledge within the company
- Producing academic dissemination outputs (conference/journal papers)

The role requires the successful candidate to:

- Lead the technical direction of the KTP project
- Operate as the interface between the university academics and company stakeholders
- Translate outputs into commercially viable solutions



- Work independently while managing project milestones and deliverables
- Present technical progress to senior management
- Main detailed documentation and version control
- Ensure compliance with ethical AI and data governance standards
- Deliver measurable business impact through innovation

Person Specification

Essential Criteria	Application Form / Support Statement / Interview
1. A minimum 2:1 or first-class undergraduate qualification in Computer Science, Artificial Intelligence, Data Science, Software Engineering, or a closely related discipline	Application Form / Support Statement / Interview
2. Strong programming skills (Python essential)	Application Form / Support Statement / Interview
3. Experience with machine learning frameworks (e.g., PyTorch, TensorFlow)	Application Form / Support Statement / Interview
4. Experience with Large Language Models (LLMs) and NLP systems	Application Form / Support Statement / Interview
5. Experience designing APIs and system architectures	Application Form / Support Statement / Interview
6. Knowledge of cloud computing environments (AWS, GCP, Azure)	Application Form / Support Statement / Interview
7. Experience with data modelling and ETL pipelines	Application Form / Support Statement / Interview
8. Strong analytical and problem-solving skills	Application Form / Support Statement / Interview
9. Experience working on innovation-led projects	Application Form / Support Statement / Interview
10. Ability to translate technical solutions into commercial applications	Application Form / Support Statement / Interview

Desirable Criteria	
1. Master's degree or PhD (awarded or near completion) in Artificial Intelligence, Machine Learning, Generative AI, or a closely related discipline will be an advantage	Application Form / Support Statement / Interview
2. Experience with generative AI (Diffusion models, CLIP, NeRF, 3D GANs)	Application Form / Support Statement / Interview
3. Knowledge of 3D rendering (WebGL, GLTF, mesh processing)	Application Form / Support Statement / Interview
4. Experience integrating Speech-to-Text systems	Application Form / Support Statement / Interview
5. Experience with multi-agent AI frameworks (e.g., LangChain)	Application Form / Support Statement / Interview
6. Knowledge of Explainable AI (SHAP, LIME)	Application Form / Support Statement / Interview
7. Experience with CAD/CAM systems	Application Form / Support Statement / Interview
8. Experience in manufacturing or digital commerce environments	Application Form / Support Statement / Interview
9. Publication record in AI or software engineering	Application Form / Support Statement / Interview
10. Academic acumen to enable successful reporting through research publications in academic journals and marketing/training materials	Application Form / Support Statement / Interview
Personal Skills	
1. Enthusiastic, self-motivated and able to take a proactive role in delivering the proposal's work plan successfully.	Application Form / Support Statement / Interview
2. Practical interpersonal skills to establish good working relationships with colleagues, stakeholders, and industrial partners.	Application Form / Support Statement / Interview
3. Excellent communication skills to express ideas adequately and articulate complicated matters between the academics and the company project team members either orally or in writing	Application Form / Support Statement / Interview
4. Excellent analytical, problem-solving, and computational skills, along with being adept at applying knowledge to commercial projects, driving value and making an impact where possible.	Application Form / Support Statement / Interview

5. Strong leadership and project management skills.

Application Form /
Support Statement /
Interview

- Application Form – assessed against the application form. Normally used to evaluate factual evidence e.g. award of a qualification. Will be assessed as part of the shortlisting process.
- Cover Letter & CV - applicants are asked to provide a statement to demonstrate how they meet the criteria, and may reference their CV. The response will be assessed as part of the shortlisting process.
- Interview – assessed during the interview process by either competency-based interview questions, tests, work-related exercise, presentation and discussion, or teaching session etc.