

Candidate Recruitment Pack

KTP Associate Role

KTP associate role	KTP Associate (Software Engineer)
Vacancy term	Fixed term for 30 months
Salary range	£38,000 - £42,000
Location	Stockton on Tees, TS18 3TA
Lead academic / academic supervisor	Professor Quan Bing Eric Li / Dr Perk Lin Chong
Academic school	School of Computing, Engineering & Digital Technologies
Closing date	12th November 2026
Interview date	Stage 1: 26th November 2026 / Stage 2: 9th December 2026
Job reference number	T03269
KTP Company Partner	Protex (UK) Systems Limited

The position offers the KTP associate the following benefits:

- > **A challenging and rewarding job, with real responsibility within the work environment**
- > **A planned program of training courses, including a £2,000 annual personal development budget**
- > **Mentoring from industrial and academic supervisors**
- > **Support and resources from the University**
- > **The chance to implement strategic development within an innovative company**
- > **Fast track your career**
- > **Own your own project, delivering positive change**
- > **Take on a role that bridges academia and business**
- > **The chance to manage a challenging, real-world project**

You are employed by Teesside University but based primarily within the KTP Partner premises.

The project is part of the Knowledge Transfer Partnership (KTP) programme that aims to help businesses to innovate and grow by working with UK universities. Successful KTP projects are funded by UK Research and Innovation through Innovate UK and are part of the government's Industrial Strategy. For more information visit tees.ac.uk/KTP



About the role

Protex (UK) Systems Limited is an engineering and safety-systems company specialising in fire and gas detection systems, based at Wellington House, Wellington Court, Preston Farm Business Park, Stockton on Tees, TS18 3TA. This role will support their strategic ambitions to strengthen their position as a leading provider of fire and gas detection system design and engineering services.

This position forms part of the Knowledge Transfer Partnership (KTP) programme which is part funded by Innovate UK (<https://www.ktp-uk.org/>). This position is initially for a 30-month fixed term contract. You will be employed by Teesside University but will be working full-time at the business partner premises day to day. The appointed candidate will have 23 days holiday (plus bank holidays) and access to a dedicated training budget tailored towards their personal development. You will have access to industry leading technology and supervision from a leading academic research team from Teesside University.

Person Specification

ESSENTIAL

- A Master's degree (or equivalent industrial experience) in Mechanical Engineering, Computational Engineering, Applied Mathematics, Computer Science, or a closely related discipline
- Strong experience in computational modelling and optimisation (e.g. genetic algorithms, numerical optimisation)
- Strong programming skills in Python/MATLAB for developing simulation, optimisation, and AI-driven tools
- Experience in data processing, numerical methods, and building modular software workflows is required.
- Ability to translate engineering requirements into computational models, validate outputs against performance criteria, and interpret results within practical engineering contexts.
- Strong analytical, documentation, and communication skills
- Self-motivated, methodical, adaptable, and capable of independent working within a structured project environment.
- Excellent written and verbal communication; able to explain complex technical concepts to non-specialists, adapting communication to meet recipient needs
- Ability to work across multidisciplinary academic and industrial teams.
- Demonstrate a commitment to the University's Vision, Mission and Values and to work within the University and Protex (UK) Systems Limited's policies and procedures

DESIRABLE:

- PhD in Mechanical Engineering, Computational Engineering, Computer Science, or relevant discipline
- Experience with AI or data-driven optimisation methods
- Familiarity with 3D/spatial data processing or engineering system modelling
- Experience in software development practices, including modular design, API development, or integration of computational tools
- Exposure to user interface development (e.g. web-based or GUI tools) for engineering applications
- Familiarity with performance optimisation techniques (e.g. parallel computing or C++), and high-performance computing / C++ for performance-critical components
- Exposure to industrial or safety-critical engineering environments
- Experience developing AI-driven report generation systems that automatically produce structured reports from data, analyses, and key outputs using standardised organisational templates.
- Experience in computer vision and image processing, including floor plan analysis, object detection, image segmentation, feature extraction, edge detection, pattern recognition, and AI-driven scene understanding.
- Ability to facilitate workshops/training

Job description

PURPOSE

To develop an AI-driven digital design capability that automates fire and gas detector placement, coverage validation, and cost estimation within complex industrial environments. This innovation will create efficiencies by reducing design time, improving accuracy, and enabling faster, more reliable delivery of safety-critical detection systems across energy and industrial sectors.

DUTIES AND RESPONSIBILITIES

1. Project manage the delivery of the Knowledge Transfer Partnership work plan (with extensive support from both the company and academic supervisors)
2. Lead on the key stages of the KTP, including:
 - a. Establish strategic alignment, business model familiarisation, situational awareness and Gantt chart/risk register updates
 - b. Establish technology foundation and methodology familiarisation
 - c. Core software engine (prototype) development for detector optimisation and coverage simulation
 - d. Multi-objective optimisation, AI integration and cost-aware design development
 - e. High-Performance simulation, system integration, explainable AI and user interface development
 - f. Deliver system scale-up, industrial validation and operational embedding
 - g. Deliver software productisation, commercialisation and sustainable operation
3. Co-author and present academic papers to relevant journals/conferences.
4. Collaborate with University supervisors to translate research into commercial outcomes.
5. Contribute to KTP evaluation and final reports.
6. Adhere to the University's & Protex (UK) Systems Limited's Health and Safety Policy and guidelines.
7. Adhere to the General Data Protection and The Data Protection Act 2018.
8. Promote Equality and Diversity for staff and students and embrace the University's Values and Behaviours Framework.
9. Any other reasonable duties that may be allocated from time to time commensurate with the grading of the post.

About the company partner

Protex (UK) Systems is a UK-based engineering and safety-systems company specialising in the design, supply, integration, and maintenance of fire and gas detection systems. Supplying proprietary software tools, Protex enable customers to evaluate detection coverage and system performance in complex industrial facilities, helping protect people, assets, and infrastructure from fire and gas risks.

About Teesside University

VISION

Teesside will be a leading University with an international reputation for academic excellence that provides an outstanding student and learning experience underpinned by research, enterprise and the professions.

MISSION

Teesside University generates and applies knowledge that contributes to the economic, social and cultural success of students, partners and the communities we serve.

Through education enriched by research, innovation, and engagement with business and the professions, we transform lives and economies.

VALUES

At Teesside University we seek to enhance the experience of all our students, staff and external partners by:

- > Delivering excellence in learning, research and enterprise
- > Empowering individuals and teams to enhance their contribution to the University
- > Fostering creativity, enterprise and innovation
- > Embracing diversity and actively opposing prejudice
- > Communicating openly, honestly and respectfully at all times
- > Committing to sustainability and the protection of our environment
- > Taking responsibility and demonstrating leadership

[Find out more about the University's corporate strategy.](#)

STAFF BENEFITS

A variety of provision to support staff with personal development and recognition

- > A range of family friendly benefits
- > An employee benefits platform which provides discounts with 350+ retailers
- > Access to health and wellbeing resources

[Find out more about staff benefits.](#)

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