Data Analytics Engineer (KTP Associate)

Department	Electronic and Electrical Engineering (www.strath.ac.uk/engineering/electronicelectricalengineering/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	KTP	Reference No	216336
Reports To	Graeme West (Academic Supervisor), Graeme Summers (Industrial Supervisor)	Grade:	RS79/KTP
Salary Range:	£34,500-£40,000 (+£4000 Training budget)	Contract Type:	Fixed Term (24 months)
FTE	1	Closing Date	22/09/2019

Job Advert

The Department of Electronic and Electrical Engineering, Institute for Energy and Environment in partnership with ICR Integrity (https://icr-world.com) are seeking to appoint a Knowledge Transfer Partnership (KTP) Associate in the area of Asset Integrity Management, with a focus on developing and deploying predictive analytics capability for pipework corrosion using machine learning techniques.

ICR is a global maintenance and integrity company offering a range of solutions in pipeline and structural maintenance, integrity, corrosion and repair across the oil and gas sector. As a KTP Associate you will be principally based at the ICR Integrity offices, Bridge of Don, Aberdeen but will spend periods of time at the University of Strathclyde as required. You will work jointly with Strathclyde and ICR to apply emerging machine learning and predictive analytics techniques for corrosion monitoring which will integrate into ICR's Asset Integrity Management (AIM) lifecycle platform for Risk Based Inspection (RBI). You will integrate into an agile team of software engineers and corrosion specialists, taking on responsibility for driving forward the prognostic capabilities of the AIM platform. The project will see you developing, demonstrating and evaluating algorithms for predicting the presence and extent of corrosion, based on existing client data and in conjunction with the research team at Strathclyde. Following evaluation, you will be responsible for translating these algorithms into deployment for use in the field, integrating them into ICR's existing asset management software.

The project is part of the Knowledge Transfer Partnership (KTP) programme that aims to help businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK knowledge base. Successful Knowledge Transfer Partnership projects are funded by UK Research and Innovation through Innovate UK and are part of the government's Industrial Strategy. To find out how KTP works and the vital role you will play if you successfully secure a KTP Associate position please visit: www.ktpws.org.uk

To be considered for the role you will be educated to a minimum of 2:1 Honours Bachelor's degree in a relevant discipline support by significant, related industrial experience. Whilst not essential for the role it would be desirable if applicants had a PhD in Engineering, Computer Science, Applied Physics, Mathematics or a related discipline; or have significant, related industrial experience. You will have knowledge and experience in one or more of the following areas; Machine Learning and data analytics including design and implementation of decision support systems, Software design including requirements gathering, development and deployment, testing and evaluation; Condition monitoring, diagnostics and prognostics, preferably in the energy sector; You will be competent in at least one programming or statistical analysis package (examples include: Java, Python, C++, MATLAB, R) with preferable experience of databases. In addition, an awareness of commercial drivers for this work and an understanding of the current climate in the UK and international oil and gas sector would be of significant benefit.

In addition to the KTP core development training, you will have a dedicated training budget of £4,000 to further support your career development.

the place of useful learning
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Job Description

Brief Outline of Job:

Supported by the academic team at the University of Strathclyde, the KTP Associate will lead the development of predictive analytics capabilities into ICR's Asset Integrity Management platform, with an initial focus on corrosion of pipework.

Main Activities/Responsibilities:

1.	Conduct research as part of the KTP project, including developing prognostic models of degradation for corrosion of pipework, based on a combination of raw data gathered from clients and in-house specialist expertise
2.	In conjunction with ICR Engineers, undertake front-end engineering design for integration of prognostic capabilities into the existing AIM platform.
3.	Develop, demonstrate and evaluate prototype algorithms for predicting corrosion in pipework.
4.	In conjunction with ICR software engineers, Integrate suitable algorithms into existing AIM platform.
5.	Support the demonstration of developed capabilities to clients.
6.	Plan and manage own workload, with guidance from colleagues as required.
7.	Write up results of own research and contribute to the publication of reports and publications.
8.	Prepare technical presentations and present/disseminate work at conferences, workshops and meetings as required.
9.	Liaise and communicate with ICR management throughout the project.
10.	Engage in continuous professional development.
11.	Completion of KTP Associate Final Report by the required deadline.

Person Specification

Educational and/or Professional Qualifications
(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E1 2:1 Honours Degree in a relevant discipline.

D1 PhD in Engineering, Computer Science, Mathematics or Physics - candidates who are near to completion of a PhD will also be considered.

Experience

E2 Substantial experience in programming languages or statistical analysis packages (for example: Java, Python, C++, MATLAB, R).

E3 Technical writing and presentation experience

E4 Experience in the application of machine learning and predictive analytics to engineering data.

D2 Experience in database design and interrogation (e.g. SQL).

D3 Experience in software development lifecycle (user requirements, technical, functional, architectural specification, testing and verification and validation).

Job Related Skills and Achievements

D4 An understanding in piping materials and corrosion degradation mechanisms.

D5 An understanding of the Integrity Management process, in particular Risk Based Inspection (RBI).

D6 Experience of presenting technical work to a broad range of audiences.

Personal Attributes

E5 Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a wide range of stakeholders.

E6 Ability to plan and manage own workload.

E7	Ability to work both independently and within a team environment.

Other Relevant Factors

E8	Flexibility to travel between Aberdeen and Glasgow including possible overnight stays in Glasgow.
D7	Experience with video/skype conference calls and meetings technology.

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (http://www.strath.ac.uk/hr/workforus).

Informal enquiries about the post can be directed to Graeme West, Senior Lecturer (Graeme.west@strath.ac.uk).

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found here.

Conditions of Employment

Conditions of employment relating to the KTP staff category can be found at: Conditions of Employment.

Probation

Where applicable, the successful applicant will be required to serve a **6 month** probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from Payroll and Pensions.

Interviews

Formal interviews for this post will be held at ICR offices in Aberdeen on 30/09/2019.

Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. Our Values have been derived from how we act and how we expect to be treated as part of Strathclyde.