THE POST

College:	**College of Engineering, Mathematics and Physical Sciences**
Post:	**Data Scientist (KTP Associate)**
Reference No:	**P65131**
Grade:	**E**
HERA:	**PDRA**
Reporting To:	**Prof Richard Everson**

The KTP Programme is a partnership between the University of Exeter and Best Energy Saving Technology Ltd. (BEST). You will be employed by the University of Exeter, but will spend the majority of your time working on this project at the company premises in St Austell, on the southern coast of Cornwall.

The Company

BEST is an ambitious, dynamic, high-tech energy management Services Company, which provides energy monitoring and energy saving software, hardware and technical consultancy. Its primary product is Eniscope, a real-time energy management system that disaggregates and processes data on energy consumption and provides real-time and analytic information through graphical displays.

BEST is a UK-based manufacturer and supplier in the global energy monitoring and management industry. They design, develop and manufacture tools, technology and software with one primary goal: to improve global energy efficiency. Their systems combine sensor technology with cloud-based software to provide clients with a comprehensive energy management solution. The company's headquarters are in St Austell, but they have operations in 37 countries. Their distribution partners include Quintex, IBM and NG Bailey, and customers/product end-users include Toyota, Shell, Hilton, KFC and McDonalds.

St Austell is in the region with the highest natural capital value in the UK, which includes Dartmoor and Exmoor National Parks and some of the UK's best beaches and bathing waters. The company runs a flexible office that realises that you are a human – most of us have a family or other commitments and accept that life isn't always simple day to day. They support what you do away from work and try to ensure you can enjoy your life as well as your job. . If you need any further reasons to come to Cornwall, check out the following: https://www.greenbank-hotel.co.uk/our-hotel/blog/twenty-reasons-visit-cornwall/.

More information about the company can be found at: https://bestenergysaving.com/.

KTP (Knowledge Transfer Partnership)

KTP offers high-calibre graduates the opportunity to accelerate their career by gaining experience at senior level in the organisation and receive a tailored development programme, with a personal development budget. Further information on Knowledge Transfer Partnerships can be found on http://ktp.innovateuk.org/.

The successful candidate will work with BEST and academic supervisors from the University of Exeter. The KTP will adopt machine learning and artificial intelligence to develop a new energy, building and asset management software product which will be suitable for use in UK markets and worldwide.

Job Description

Main purpose of the job:

You will work closely with both the academic team at University of Exeter and the industrial team at BEST to apply/develop machine learning techniques to be integrated into the company's energy management system. They will be responsible, in conjunction with their Industry and Academic supervisors, for managing and driving forward this project to develop and embed the relevant expertise and develop an exploitable product.

Main duties and accountabilities:

1. To undertake research and act as project manager on the KTP programme including:

    - Undertaking research and development of new machine learning algorithms applied to energy management time-series data, which is likely to include the following:
        - Learning patterns of "normal" usage from historical data and developing statistical models to describe them,
        - Using these learned patterns to identify "interesting" features and anomalies,
        - Incorporating externally sourced data, such as weather, into the models,
        - Studying the predictive quality of these models,
        - Separating a single multivariate signal into its constituent independent, additive components,
        - Creating models to predict equipment maintenance schedules.
    - Writing up research work for publication;
    - Developing project objectives and proposals for own or joint research;
    - Making presentations at national and international conferences and similar events;
    - Dealing with problems which may affect the achievement of project objectives and deadlines;
    - Analysing and interpreting the results of own research and generating original ideas based on outcomes;
    - Using new research techniques and methods;
    - Using creativity to analyse and interpret research data and draw conclusions on the outcomes.
    - Documenting the work undertaken, and the verification processes.

2. To contribute to teaching and to be involved in the assessment of student knowledge including assisting in the supervision of student projects and in the development of student research skills.

3. To work in collaboration with colleagues as appropriate to the project including:

    - Contributing to collaborative decision making within the KTP programme;
    - Contributing to the production of collaborative research reports and publications.
    - Preparing papers and presenting information on project progress and outcomes to bodies supervising the project, e.g. steering groups.

4. To communicate complex information, orally, in writing and electronically.

5. To use research resources, laboratories and workshops as appropriate and to take responsibility for reducing hazards and for the health and safety of others. Where appropriate, will also be responsible for conducting risk assessments.

6. Report on a monthly basis to both the industrial and academic supervisors. Make four-monthly presentations to the Local Management Committee, which is responsible for seeing that the programme objectives are met. Whilst key decisions regarding expenditure and overall direction of the programme are taken jointly, it will be expected that the post-holder takes the lead in providing recommendations on which to base these decisions

7. To engage in continuous professional development and to be responsible for continually updating knowledge and understanding in field of study or specialism and for developing skills.

This job description summarises the main duties and accountabilities of the post and is not comprehensive: the post-holder may be required to undertake other duties of similar level and responsibility.

Person Specification

Competency	Essential	Desirable
Attainments/Qualifications	PhD (or nearing completion) or equivalent qualification / experience in Computer Science, Data Science, Mathematics, Engineering or a related field of study.	Good first or Master's degree.
Skills and Understanding	Good working knowledge of machine learning and data science. Software development skills. Excellent communication skills (both written and oral) with ability to communicate complex and conceptual ideas to a range of groups. Ability to train others and disseminate new information. Able to build contacts and participate in internal and external networks for the exchange of information and collaboration. Good organisational skills with the ability to prioritise and meet deadlines under pressure. Ability to manage and balance the competing pressures of research and administrative activities. Ability to think outside of the box to find proactive, innovative and relevant solutions to problems.	Good general knowledge of energy management systems and related challenges. Knowledge and experience of multivariate time series data. Knowledge and experience of working with statistical models. Knowledge and experience of working with Python programming language.
Prior Experience	An interest in and affinity with business operations and processes.	An understanding of energy management industry systems and processes.
Behavioural Characteristics	Resilient and adaptable. Willingness and proactive in engaging in continuous professional development.	
Circumstances	Willing to work flexibly to achieve project demands.	

Terms & Conditions
Our Terms and Conditions of Employment can be viewed here.

Further Information
Please see our website for further information on working at the University of Exeter.