



Job Title: Research Assistant on Cyber Security and Data Handling in energy markets

Grade: 6

Salary: £28,331 to £32,817 per annum

Department: Informatics

Hours/Contract: Full time, fixed term contract to 31 March 2021

Reference: 1976

Role Purpose

To research, design and implement techniques and tools for enhancing the security and privacy in the bi-directional communication and interaction in energy markets and investigate applications in various domains.

Main Duties and Responsibilities

- Using a range of techniques to support the research in the acquisition, evaluation and interpretation of data. Including to:
 - Develop and document a technology for testing DOMINOES' resistance to cyber-attacks and its ability to detect the attacks. This technology will test an anomaly detection and risk-based warning system in DOMINOES.
 - Deploy and operate the data-handling platform that has been constructed in the UoL team on pilot sites, including: Install the data-handling platform and perform integration tests. Carry out the tests in the existing network. Register results against test cases. Based on test case results and the user's feedback, make changes to the proposed platform.
- Undertake direct supervision of post-graduate students where agreed with the line manager;
- Engage in relevant professional activities (e.g. travel for meetings and field work) and in continuous professional development.

Internal and External Relationships

Liaison with collaborators within and outside the University of Leicester.

Planning and Organising

The post holder will be required to effectively manage their time to deliver on the priorities of the project.

Qualifications, Knowledge and Experience

Essential

- MSc (or the equivalent in professional qualifications and experience) in computer science, engineering, maths or a related discipline*.
- Experience or, at least, basic knowledge of cyber security and secure data handling*.
- Good knowledge of tools and languages for system modelling, simulation, and analysis*.





Desirable

- Evidence of coherent research activity (such as involvement in successful grant applications and publications)*.
- Affinity with one or more of the following areas: security policies in cloud computing, formal analysis for security properties, machine learning, model checking, applied crypto, stream data analysis*.
- Affinity with programming languages and frameworks*.
- A working knowledge of SCADA, DCS or related tools for modelling and analysis of system dynamics.
- A track record of collaboration in cyber-physical systems domain, such as automotive systems or devices.

Skills, Abilities and Competencies

Essential

- Sound analytical skills.
- Excellent written and verbal communication skills.
- Ability to work independently and also as part of a research team.
- Good skills in abstraction, modelling, algorithms, and tools for system analysis and necessary knowledge of low-level programming language, such as Python, Matlab, C, C++ or Java.

Desirable

- Experience and skills in the development of machine learning and artificial intelligence techniques.

****Criteria to be used in shortlisting candidates for interview***

Reason for Fixed Term Contract (DELETE IF NOT REQUIRED)

The reason for the fixed term contract is stated in section 1.9 in the summary of contractual terms in your contract of employment.

Criminal Declaration

If you become an employee, you must inform your manager immediately, in writing, if you are the subject of any current or future police investigations/legal proceedings, which could result in a criminal offence, conviction, caution, bind-over or charges, or warnings.

VITAL

The University encourages all staff to live our [VITAL values](#) which are:

Valuing People, Innovators, Together, Accountable, Leaders.

Equality and Diversity

We believe that equality, diversity and inclusion is integral to a successful modern workplace. By developing and implementing policies and systems that challenge stereotypes across all aspects of our work, we have a culture that recognises and values the diverse contributions of our staff which benefits





everyone. Our strong values of inclusivity and equality support our efforts to attract a diverse range of high quality staff and students, and identify our University as a progressive and innovative workplace that mainstreams equality, diversity and inclusion.

