

Research Role Profile

Job Title:	Research Assistant (1)
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Responsible to:	principal investigator of ICS
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Responsible for:	Not applicable
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Job Summary and Purpose:
To undertake research in accordance with the specified research project(s) under the supervision of the principal investigator.

Main Responsibilities/Activities
<p>To undertake a range of research activities within a specified research area, assuming responsibility for specific areas of projects and making use of new research techniques and methods, in consultation with the research award holder or supervisor. This may include laboratory experiments, computer-based simulations, library research, critical evaluation and interpretation.</p> <p>Using initiative and creativity to identify areas for development of new research methods and extend the research portfolio. Analysing and interpreting results of own research. Writing up results and preparing papers for submission to appropriate journals and conferences, and other outputs as required and/or appropriate. Attend appropriate conferences for the purpose of disseminating research results and personal development. The post holder may also contribute to writing bids for research grants and will contribute to collaborative decision making with colleagues in areas of research.</p> <p>Continually update technical knowledge and skills, and translate knowledge of advances in the area into the research activity.</p> <p>To plan and manage own research activity in collaboration with others. To carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting and financial control.</p> <p>To contribute to teaching in the Faculty by carrying out student supervision and/or demonstrating within the post holder's area of expertise and under the direct guidance of a member of departmental academic staff, as appropriate. The post holder may occasionally be required to supervise more junior research staff.</p>

Research Role Profile

Person Specification

The post holder must have:

An MSc degree (or equivalent) or close to completing an MSc degree in Computer Science, Computer Networks, Network Security or other areas related to Network Engineering. Research or industrial experience would be an advantage.

The post holder will have authority over some aspects of project work and must be capable of providing academic judgement, offering original and creative thoughts and being able to interpret and analyse results.

Relationships and Contacts

Direct responsibility to the principal investigator or academic supervisor of ICS. The post holder may be asked to serve on a relevant Faculty committee. There may be additional reporting and liaison responsibilities to external funding bodies or sponsors. The post holder may work on original research tasks with colleagues in other institutions.

Special Requirements

N/A

All staff are expected to:

- Positively support equality of opportunity and equity of treatment to colleagues and students in accordance with the University of Surrey Equal Opportunities policy.
- Help maintain a safe working environment by:
 - Attending training in Health and Safety requirements as necessary, both on appointment and as changes in duties and techniques demand
 - Following local codes of safe working practices and the University of Surrey Health and Safety Policy
- Undertake such other duties within the scope of the post as may be requested by your Manager

Research Role Profile

Addendum to Profile

Job Title:	Research Assistant (1)
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Job Summary and Purpose:

This information sheet should be read in conjunction with the accompanying generic Research Role Profile and will be used for shortlisting processes. More specifically the post holder will be expected to:

The “D-XPERT” is an innovative UK-funded project under the Accelerating Trustworthy AI Phase 2.

D-XPERT project represents a ground-breaking innovation in energy-efficient building management, addressing the pressing challenges posed by energy consumption in the UK and beyond. Developed by DIREK, this cutting-edge solution leverages advanced AI and data analytics to optimise Heating, Ventilation, and Air Conditioning (HVAC) systems and enhance overall energy efficiency. This innovation represents a transformative force in enhancing building energy efficiency and sustainability.

The University of Surrey, recognised for its advanced research capabilities and in-depth understanding of network and communication technology, will be a critical partner in the 5G D-XPERT project. ICS, particularly noteworthy, is their cybersecurity expertise, which will significantly contribute to the project's success.

D-Xpert prioritises data security with advanced protocols to safeguard sensitive information. It employs selective data management to reduce the carbon footprint. This combination of security and efficiency is a significant step forward.

The applicant will work in the area of developing an intrusion detection system and aims to conduct a threat analysis through the data gathered from HVAC systems to preserve the trustful AI of the D-XPERT project architecture and its components. The work will also analyse secure cybersecurity scenarios and establish incident access control procedures.

Main Responsibilities/Activities

- Conduct research and hands-on experience to secure AI/ML methods over the network and system problems.
- Realisation of secure AI/ML on the HVAC setting
- Help the Surrey team design and test data secure and efficient solutions
- Effective collaboration with the co-researchers and the project partners

Person Specification

Research Role Profile

The post holder must have:

A first degree or a professional qualification or equivalent in a relevant subject.

At least completed a relevant Msc degree or have relevant experience in a given field.

The post holder will be expected to be able to support research/hand-on activities by performing experiments and/or undertaking studies and analysing/ interpreting results.

Relationships and Contacts

Whilst the post holder has direct responsibility to the head of the research institution and Director, they will be expected to report to and liaise with external funding bodies and sponsors.

The post holder will join a vibrant research Institution. ICS now houses some 160 researchers, including over 90 undertaking a PhD, post-doctoral researchers and academic staff. ICS research is focused on future communication systems, including mobile and wireless communications, satellite communications, security and networking. ICS is home to the 5G/6G Innovation Centre (5G/6GIC), which is the largest UK academic research centre dedicated to the development of the next generation of mobile and wireless communications. Bringing together leading academic expertise and key industry partners in a shared vision, the 5G/6GIC will help define and develop the 5G infrastructure that will underpin the way we communicate, work, and live in the future. Of course, IoT cyber security is one of the major research areas at 5GIC and the University of Surrey.

For informal enquiries, please contact Dr Mohammad Shojafar by email: m.shojafar@surrey.ac.uk or telephone: 01483 689480 for an informal discussion.