

Candidate Information

Position:	Senior Embedded Software Engineer
School/Department:	Centre for Secure Information Technologies
Reference:	20/108207
Closing Date:	Wednesday 20 May 2020
Salary:	£35,238 to £53,100 per annum.
Anticipated Interview Date:	Thursday 30 April 2020
Duration:	This post is currently available until 31 January 2022

JOB PURPOSE:

To play a leadership role in the continuing expansion of data security and critical infrastructure protection research and innovation within the Centre for Secure Information Technologies (CSIT). To undertake significant software development projects, manage research projects and deliver technology demonstrators focused on applied cryptography and industrial control system security.

MAJOR DUTIES:

Research:

1. To translate research prototypes into fully architected software/hardware security components and solutions displaying the quality characteristics necessary for integration into viable commercial products.
2. Undertake significant software development projects, manage research projects and deliver technology demonstrators for applied cryptography and industrial control system security.
3. Develop software tools for real-time traffic analysis of SCADA based Industrial Control Systems, PLCs and their associated protocol suites.
4. Support the development of robust, quantum-safe cryptosystems and demonstrators.
5. Development of key management systems for the above and integration into public key infrastructures.
6. Promote quality software development practices across the research and development teams.
7. Ensure reliable delivery of projects via effective planning, monitoring and control.
8. Promote open innovation and drive technical engagement with CSIT Industrial Advisory Board members.
9. Lead the design, development, delivery and maintenance of various CSIT concept demonstrators.
10. Produce high quality technical reports and deliverables to assist in generating funding opportunities to support further innovation activity.
11. Help develop the international reputation of CSIT through presentations, attendance at trade shows and innovation events worldwide.
12. Any other duties that may reasonably be requested by management.
13. Provide mentoring and training to junior staff (and students) as appropriate.

Planning and Organising:

1. Liaise with other team members to achieve coordinated progress against objectives.
2. Plans own work and the work of others to meet given objectives and processes.
3. Engaging and influencing stakeholders and advisory board in the progression of activities.

Resource Management Responsibilities:

1. Provide guidance as required to supporting staff assisting with innovation activities.
2. Ensure research and development resources are used in an effective and efficient manner.
3. Responsibility for work of others and allocation of resources as required.
4. Responsible for line management and on-going development of individuals as outlined by current HR policy.

Internal and External Relationships:

1. Initiate and sustain engagements with team members to facilitate progress against objectives.

2. Participate in external engagements with commercial partners and government agencies related to innovation programmes as required.

ESSENTIAL CRITERIA:

1. 2:1 Honours Degree, or equivalent, in Electrical/Electronic Engineering, Computer Science or related discipline.
2. Must have significant industrial product development experience involving software design and embedded software development.
3. Well developed software development skills in C, C++ / Java / Python. A strong background in the use of code configuration management and continuous integration toolsets.
4. Significant knowledge of SCADA based network architectures and associated protocol stacks.
5. Strong interest in cyber security.
6. A sustained stream of high quality outputs such as technical reports, major component design specifications and project deliverables which have successfully passed formal quality review procedures.
7. Ability to communicate complex information clearly in both written and spoken English.
8. Evidence of strong presentation skills and ability to prepare clear and concise presentation materials.
9. A consummate team player who is open-minded and is prepared to work closely with other members of a large multidisciplinary research and development team.
10. Willingness to attend meetings and conferences nationally and internationally as requested, i.e. must be prepared to travel.

DESIRABLE CRITERIA:

1. MEng, MSc Cybersecurity, or a Ph.D. in a relevant area.
2. Cyber security professional certifications (CISSP, CEH etc).
3. Experience of working in high technology start-ups.
4. Evidence of executing and managing industrial and/or research projects.
5. Evidence of raising funds to support industrial/research projects.
6. Knowledge of network security and open source toolsets for network intrusion detection and SIEM.
7. Experience of SCADA network operations and equipment.
8. Experience of implementing client/server protocols.
9. Sufficient breadth and depth of specialist knowledge in the discipline and of research and development methods and techniques to work within established research programmes.
10. Ability to interact with others including senior academic staff, and senior industry and government executives.
11. Stable, hard-working personality with a strong drive to complete projects on time and to deliver the promised outcomes.