Candidate Information

Position: Senior Engineer in Chirp Sonar Research Project
School/Department: Centre for Wireless Innovation
Reference: 21/108660
Closing Date: Monday 15 March 2021
Salary: £35,238 - £51,150 per annum
Anticipated Interview Date: Monday 29 - Wednesday 31 March 2021
Duration: Available for 35 months or until 31 January 2024 (whichever is soonest)

JOB PURPOSE:

To play a leading role in the Artemis Chirp Sonar Research Project within the Centre for Wireless Innovation (CWI), The Institute of Electronics, Communications and Information Technology (ECIT). To undertake system-level feasibility studies, design and hardware and software optimisation, and oversee the prototype system evaluation in both the laboratory and on a hydrofoil vessel.

MAJOR DUTIES:

1. Derive sonar system requirements based on the flow-down of requirements and constraints from the higher-level vessel designs.
2. Propose system architectures and concepts capable of meeting requirements and assess these against criteria agreed with other stakeholders and project team members.
3. Simulate designs using appropriate modelling tools.
4. Design and evaluate hardware architectures to meet the defined requirements.
5. Undertake software development projects for real-time control of the sonar embedded system.
6. Define the test and acceptance criteria for the sonar system and its integration into a vessel.
7. Oversee and participate in design verification and system integration test activities.
8. Promote quality software development practices across the research and development teams.
9. Ensure reliable delivery of projects via effective planning, monitoring, and control.
10. Produce high-quality technical reports and deliverables associated with the overall project management.
11. Help develop the international reputation of CWI 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. Plan for specific aspects of research programmes. Timescales range from 1-6 months in advance and contribute to research group planning.
2. Liaise with other team members to achieve coordinated progress against objectives.
3. Plan own work and the work of others to meet given objectives and processes.
4. Engaging and influencing stakeholders 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 People and Culture 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.
3. Attend regular project meetings with project collaborators as and when needed.

ESSENTIAL CRITERIA:
1. Minimum of 2:1 Honours Degree, or equivalent, in Electrical/Electronic Engineering, Computer Science or related discipline.
2. Significant and extensive research and/or industrial product development experience involving the design of real-time embedded systems.
3. Demonstrable experience in the design and evaluation of electronic hardware architectures.
4. Evidence of well-developed embedded software development skills in C++, C# or other relevant languages including the use of code configuration management.
5. Demonstrable experience in real-time operating systems for the embedded systems design.
6. Strong demonstrable experience in Field-Programmable Gate Arrays (FPGAs) design and applications.
7. A sustained track record of delivering quality outputs such as technical reports, major component design specifications and project deliverables which have successfully passed formal quality review procedures.
8. Ability to communicate complex information clearly in both written and spoken English.
9. Evidence of strong presentation skills and the ability to prepare clear and concise presentation materials.
10. 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.

DESIRABLE CRITERIA:
1. MEng, MSc or a Ph.D. in a relevant area.
2. Professional certifications (CEng etc.)
3. Proven experience in working in high technology start-ups.
4. Evidence of executing and managing industrial and/or research projects.
5. Experience in sonar or radar systems development.
6. Evidence of Integration, verification, validation and test experience.
7. Experience in digital signal processing tools, hardware, and software.
8. Proven experience of continuous integration toolsets.
9. Sufficient breadth and depth of specialist knowledge in the discipline and research and development methods and techniques to work within established research programmes.
10. Proven knowledge of sonar and radar systems.
11. Ability to interact with others including senior academic staff, and senior industry and government executives.
12. Stable, hard-working personality with a strong drive to complete projects on time and to deliver the promised outcomes.
13. Willingness to attend meetings and conferences nationally and internationally as requested.