

**UNIVERSITY OF LINCOLN
JOB DESCRIPTION**



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|-------------------|--|--------------|---|-------------|----------|
| JOB TITLE | Research Assistant in Designing and Modelling IoT Enabled Industrial WSNs. | | | | |
| DEPARTMENT | School of Engineering, College of Health and Science | | | | |
| LOCATION | Lincoln Campuses | | | | |
| JOB NUMBER | CHS120 | GRADE | 6 | DATE | May 2024 |
| REPORTS TO | Principal Investigator and Co-Investigators | | | | |

CONTEXT

This exciting opportunity has become available for a candidate to design and develop a low-power smart sensor system for cacao production in Colombia. The candidate will have the opportunity to undertake internationally leading research in the field of low-power design and wireless communications hardware including researchers from UK and Colombia engaged in the fields of Engineering, Machine Learning, Food Science, and Agri-Tech. You will simulate, design, assemble and test wireless sensor networks (WSNs) and perform data analysis using machine-learning algorithms. The candidate must be available to travel within UK and Colombia.

JOB PURPOSE

The Research Assistant is responsible for undertaking research on the project, as directed by the Principal Investigator and Co-Investigators. It is expected a significant degree of autonomy by working both independently and as part of a larger team of researchers to find solutions to meet the project aims, and to support national and international collaborations within the project.

The post holder may be required to provide embedded systems design support for other research in the School, in robotics, wireless communications and high frequency sensing systems.

Participate in multi-disciplinary team meetings as appropriate and directed by research supervisors and deliver reports and presentations as required by relevant project funding agencies and companies.

KEY RESPONSIBILITIES

Literature Surveys

To undertake literature surveys and other investigations of the state-of-the-art and to prepare reports as required.

Research

To help in the design and implementation of practical WSN demonstrators and embed Machine Learning techniques to perform data analysis.

To perform specified research under the direction and with advice from the Co-Investigators, to generate original knowledge, and to prepare reports on results, as required.

Plan own day-to-day research activity within the context of the required research programme, exhibiting a high degree of autonomy.

Contribute to the production of research outputs, including software, reports, papers and other publications, and preparation for and presentation at international research conferences.

Liaison and Networking

Liaise with internal and external collaborators, and with colleagues in the Department, maintaining positive and effective working relationships; this may include liaison with senior personnel in other organisations including collaborators, sponsors and clients.

Participate in internal research activities, including seminars, research meetings and continuous professional development activities.

Teaching Support

If required, engage in teaching support activities, up to a maximum of six hours per week.

PhD

Where appropriate and agreed, register for and undertake a PhD or other specified research degree.

In addition to the above, undertake such duties as may reasonably be requested and that are commensurate with the nature and grade of the post.

ADDITIONAL INFORMATION

| Key working relationships/networks | |
|--|---|
| Internal | External |
| <ul style="list-style-type: none">• Principal Investigator• Director of Research Centre• Head of School• Other academic staff within the Department | <ul style="list-style-type: none">• Research collaborators• Sponsors and clients |

**UNIVERSITY OF LINCOLN
PERSON SPECIFICATION**



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|------------------|--|-------------------|--------|
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| Selection Criteria | Essential (E) or Desirable (D) | Where Evidenced Application (A) Interview (I) Presentation (P) References (R) |
|---|---------------------------------------|--|
| Qualifications: | | |
| Honours degree (1 st , 2.1 or equivalent), and/or Masters degree in the area of Electrical/Electronics, Computer Science and Engineering, Robotics, Embedded Systems, Mechatronics or related fields | E | A |
| Experience: | | |
| Experience of relevant research methods | D | A/I |
| Experience of working with industrial partners | D | A/I |
| Experience in modelling and designing Wireless Sensor Networks | D | A/I |
| Experience of programming in C/C++ or embedded platforms/related design tools. | E | A/I |
| Experience specific to project/area, including experimental techniques using wireless communications test equipment and PCB assembly. | E | A/I |
| Skills and Knowledge: | | |
| Knowledge specific to project/area | E | A/I |
| Good computer programming skills | E | A/I |
| Good hardware design/prototyping skills | D | A/I |
| Ability to conduct original research in the subject area | E | A/I |
| Excellent written communication, including the ability to write reports and research outputs | D | A/I |
| Ability to prioritise own workload and work to specified deadlines under pressure | E | A/I |
| Competencies and Personal Attributes: | | |
| Flexible approach to workload | E | I |
| Ability to work on own and as part of a team | E | A/I |
| Enthusiasm and commitment | E | I |

Essential Requirements are those, without which, a candidate would not be able to do the job. **Desirable Requirements** are those which would be useful for the post holder to possess and will be considered when more than one applicant meets the essential requirements.

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| Author | EN | PBP | AH |
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