| **THE UNIVERSITY OF NOTTINGHAM** |
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| Recruitment Role Profile |

**Job Title:** Future Food Technologist – Research Software Engineer

**School/Department:** Future Food Beacon

**Job Family and Level:** Administrative, Professional & Managerial (APM) Level 5

**Contract Status:** Fixed Term for five years

**Hours of Work:** Full time

**Location:**
School of Veterinary Medicine and Science Sutton Bonington Campus. University of Nottingham

**Reporting to:** Richard Emes Professor of Bioinformatics


**Purpose of the New Role:**
As part of its ambitious Research Strategy the University is making a significant investment in its research capacity and capability through six £multi-million cross-disciplinary Beacons of Excellence (Beacons). Beacons will represent a critical mass, undertaking a coherent and integrated portfolio of research, doctoral training and knowledge exchange activities in a well-defined research area, carrying out discovery and challenge-led research and related activities, with an objective to be demonstrably amongst the best in the world. The Future Food Beacon sits alongside the Faculty of Science with a mission to deliver world class research to help address the challenge of providing sufficient quantities of nutritious and palatable food to a growing world population within a changing environment. The Beacon is to proactively engage with the research ecosystem within and across Faculties, in particular Research Centres and Institutes. The Beacon will have clearly identified objectives against which they will be required to deliver in order to release funding to enable ongoing delivery. The focus of the role holder will be on performing high quality research within the Future Foods Beacon.

The role holder will develop data management systems and novel tools for data analysis including collaborating with researchers to produce high quality reusable software for research projects. You will collaborate with research colleagues and provide expert level knowledge and skills to develop, improve, maintain and support high quality software solutions fulfilling the requirements of research projects. As you progress in this role, you will be expected to collaboratively work with academic colleagues to support external funding applications for future software development projects, to meet the growing demand for support in this area and ensuring sustainability of software created for research. The University is seeking to make increased utilisation of cloud based infrastructures, such as Azure, and therefore we would seek a candidate that has developed applications within such environments. Our ideal candidate will have taken a standard desktop application and converted it into a web interfaced application via cloud infrastructure, experience of the Full Stack would be beneficial.

The persons appointed will be aligned with the Bioinformatics research group housed at the School of Veterinary Medicine and Science and will be associated with the Advanced Data Analysis Centre https://www.nottingham.ac.uk/adac. The University has as an existing number of Research Software Engineers and you would be encouraged to engage with them to support and benefit from the Research Software Engineering community at the University of Nottingham. Informal enquiries may be addressed to Dr Phil Quinlan Philip.Quinlan@nottingham.ac.uk. Please note that applications sent directly to this email address will not be accepted.

| | Main Responsibilities | % time per year |
|---|---|---|
| 1. | **Undertake scientific and technical software development:**<br>• Take responsibility for the definition, documentation and satisfactory completion of collaborative software projects defining requirements, timescales, milestones, priorities, managing risks and issues for the success of the project.<br>• Prioritise tasks across multiple projects towards meeting objectives within agreed time and resource constraints and provide regular communication through reports to project leads as appropriate.<br>• Design, construct, test and document well-structured and maintainable software solutions to meet the requirements of collaborative software projects.<br>• Support researchers with porting codes and understanding the performance characteristics of code, advise on optimising and efficient use of third-party software, debugging and solving problems.<br>• Identify opportunities for service improvement, such as efficiency, reliability and performance.<br>• Engage with researchers at all development stages and disseminate best practices in the development and sustainability of research software.<br>. | 60 |
| 2. | **Provide a support service, available to all members of the Future Food Beacon:**<br>• Manage, maintain and support the infrastructure and an effective software development environment needed to deliver the research software engineering services.<br>• Collaborate with research groups and project leads to construct, improve and maintain codes used in all areas of research.<br>• Maintain a portfolio and archive of collaborative software projects, code documentation, release notes and manuals.<br>• Ensure longevity and sustainability (e.g. version control, continuous integration, generation of and maintaining documentation) of these software projects. | 25 |
| 3. | **Provide support for writing of manuscripts and grant proposals:**<br>• Work closely with researchers and contribute to research bids to funding bodies to secure funds for research.<br>• Contribute to research papers to be published in academic literature. | 5 |
| 4. | **Provide Training for the Future Food Beacon community:**<br>• Assist with developing an active user community, by contributing to seminars and networking events, encouraging best practices are adopted, sharing knowledge and expertise, and by providing technical support, problem-solving, training opportunities and coaching sessions. | 5 |
| 5. | **Personal Development:**<br>• Develop own skills and professional capability in line with the needs of the service<br>• Maintain an awareness of technical developments, tools and ideas in research computing and in software engineering. including attending seminars, technical briefings, conferences and technical groups. | 5 |

**Knowledge, Skills, Qualifications & Experience**

| | Essential | Desirable |
|---|---|---|
| **Qualifications/ Education** | Postgraduate degree in a computational field **OR** equivalent qualification **OR** professional experience in a related field, e.g. programming for research and development in an academic or industrial setting. | Research experience in a specialist support role.<br><br>MSc or PhD (or equivalent) in an appropriate subject. |
| **Skills/Training** | Extensive experience of a programming language R, Python or Perl.<br><br>Ability to work comfortably in a range of computer environments including Unix/Linux.<br><br>Good knowledge of multiple database platforms but with professional experience in at least one, preferably Microsoft SQL.<br><br>Ability to prioritise tasks across multiple projects<br><br>Ability to quickly understand the key aspects of a project<br><br>Ability to adapt communication style for target audience | Experience of cloud based infrastructures, such as Azure.<br><br>Experience of Full Stack development. |
| **Experience** | Evidence of independence and management of workload.<br><br>Track record of collaboration across diverse disciplines. | Track record of development of web interfaced applications<br><br>Experience of working with a research-based team. |
| **Personal Attributes** | Excellent written and verbal communication skills.<br><br>Excellent record keeping and organisational skills.<br><br>Ability to work on diverse projects in a range of disciplines in bio-medical science.<br><br>Ability to work with others as a team. | Willingness to train and mentor junior colleagues. |