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**Job Description**

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| **Job title:** | **Research Software Engineer** |
| **Department/School:** | **Department of Computer Science** |
| **Grade:** | **7** |
| **Location:** | **University of Bath premises** |

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| **Job purpose** |
| As a Research Software Engineer you will work within the Department of Computer Science at the University of Bath, supporting internationally leading research and development across the department with a strong focus on turning research software and outputs into fully deployable and impactful products.  Activities include contributing to the production of high quality research software and leading the development and refinement of research outputs from early prototypes to usable and successful applications. You will work with academic and other staff and research students and when appropriate may liaise with industry collaborators. Projects are likely to span a variety of application areas including, for example, extended reality technologies, physiological sensing and data processing.  You will provide expert level knowledge and skills to develop, improve, maintain and support high quality software solutions. You will also contribute to developing relevant knowledge and skills within the department at all stages of the software development cycle, e.g. by providing technical training, coaching sessions and promoting the adoption of best practices.  To be successful you must have a strong background in programming and software development for real world products. You should be committed to software development best practices and when necessary be able to adapt them to research contexts. You will need to have excellent communication skills and a talent for technical problem solving. Some experience of teaching or tutoring software development would be an advantage.  The position is full time and will last for 2 years (fixed term contract), with possible extension subject to funding opportunities. |

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| **Source and nature of management provided** |
| Professor Eamonn O’Neill |

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| **Staff management responsibility** |
| *None* |

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| **Special conditions** |
| *None* |

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| **Main duties and responsibilities** | |
| **1** | Manage, maintain and support the infrastructure and an effective software development environment needed to deliver the research software engineering services and research outputs. |
| **2** | Collaborate with researchers to construct, improve, deploy, maintain and archive code used in all areas of department research and development. |
| **3** | Take responsibility for the definition, documentation and satisfactory completion of collaborative software projects defining requirements, timescales priorities, milestones and managing risks to the success of the project. 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. |
| **4** | Design, construct, test and document well structured and maintainable software solutions to meet the requirements of collaborative software projects. |
| **5** | Engage with researchers at all development stages and disseminate best practices in the development and sustainability of research software. |
| **6** | Maintain a portfolio and archive of collaborative software projects, code documentation, release notes and manuals. |
| **7** | Maintain an awareness of technical developments, tools and ideas in research  computing and in software engineering, including where appropriate attending seminars, technical briefings, conferences and technical groups. |
| **8** | Write up results of software development and contribute to the publication of research in high-quality peer-reviewed academic literature. |
| **9** | Disseminate results of research project as appropriate to the discipline through activities such as conference presentations and public engagement activities. |
| **10** | Participate in centre/group meetings and prepare and deliver presentations/seminars to project team, internal and external stakeholders or funders. |
| **11** | Assist with the supervision of postgraduate students and the assessment of student knowledge. |
| **12** | Continually update knowledge and understanding of software development and relevant best practices to inform research activity. |
| **13** | Disseminate knowledge of software development and artificial intelligence advances to inform teaching. |
| **14** | Some occasional travelling may be required, for example to community events,  workshops or conferences for a variety of software engineering and research fields. |
| You will from time to time be required to undertake other duties of a similar nature as reasonably required by your line manager. You are required to follow all University policies and procedures at all times and take account of University guidance. | |

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**Person Specification**

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| **Criteria** | **Essential** | **Desirable** |
| **Qualifications** |  |  |
| Bachelors and or Postgraduate degree in a computational field or equivalent qualification or professional experience in a related field, e.g. software programming and development in an academic or industrial setting. | **X** |  |
| **Experience/Knowledge** |  |  |
| Full stack professional experience in software development | **X** |  |
| Significant experience of adapting and optimising existing code | **X** |  |
| Awareness of technology developments and ability to assess their impact for algorithms or problems | **X** |  |
| Knowledge of and commitment to using best practices in software development, to include documentation, issue tracking, unit testing and version control | **X** |  |
| Significant experience in developing with one or more of the following: Java, C, C++, Python, Swift, TensorFlow, Keras, PyCharm |  | **X** |
| Significant experience in developing with Unity |  | **X** |
| Experience in using and developing software to produce research outputs |  | **X** |
| Knowledge and experience of build automation and continuous integration |  | **X** |
| Knowledge and experience of developing and optimising hardware and low level software |  | **X** |
| Knowledge and experience of the mathematics and statistics related to quantitative and qualititative research methods |  | **X** |
| Knowledge and experience of rigorous usability evaluation |  | **X** |
| Experience of working in the Higher Education sector as a researcher and contributing to research through software development |  | **X** |
| **Skills** |  |  |
| Proven ability to develop and maintain working relationships and actively collaborate with other technical and non-technical staff, teams and groups | **X** |  |
| Excellent written and communication skills and ability to adapt communication style to suit the audience and to work with staff at all levels | **X** |  |
| Technical competence and proven troubleshooting skills based on past experience and independent investigative analysis | **X** |  |
| Ability to learn and adapt to new technologies and concepts | **X** |  |
| **Attributes** |  |  |
| Excellent organisational skills and proven project management skills | **X** |  |
| Flexibility and adaptability and an ability to cope with a busy workload | **X** |  |
| Ability to work either on your own or as part of a team | **X** |  |
| Confident and able to engage with students and researchers of differing technical abilities | **X** |  |
| Ability to deal with sensitive information and data appropriately | **X** |  |