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| Last updated: | February 2022 |

JOB DESCRIPTION

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| Post title: | Senior Research Software Engineer |
| Academic Unit/Service: | Electronics and Computer Science |
| Faculty: | Faculty of Physical Sciences and Engineering |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 5 |
| \*ERE category: | Enterprise pathway |
| Posts responsible to: | SRSG Directors |
| Posts responsible for: | n/a |
| Post base: | Office-based |

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| Job purpose |
| To lead the delivery of collaborative, multi-site, interdisciplinary, software engineering consultancy to the portfolio of clients developed by the Southampton Research Software Group (SRSG). |

| Key accountabilities/primary responsibilities | % Time |
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| 1. | Design and deliver specialised software and for research partners, clients and industrial collaborators. Produce written materials, in the form of documentation and tutorials for dissemination, to meet the needs of research partners, clients and industrial collaborators. | 60% |
| 2. | Provide expert guidance, advice and oversight to individual RSEs and groups of RSEs within the University. Manage the delivery of projects and help to build client relationships. May involve line management responsibility for a number of other RSEs within the group. | 15% |
| 3. | Identify opportunities for collaboration with partners across the university. Develop and manage activities to grow the research software community across the University. Conduct training to upskill researchers with software skills. | 15% |
| 4. | Remain conversant with cutting-edge software development techniques and practices used by the research community. | 5% |
| 5. | Any other duties that fall within the scope of the post as allocated by the line manager following consultation with the post holder. | 5% |

| Internal and external relationships |
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| * SRSG Directors (internal)
* SRSG clients (internal)
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| Special Requirements |
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| * Travel to other universities and research organisations maybe required – typically within the UK although some international travel may be possible.
* Flexible hours of work may be required if appropriate as well as core hours.
* Good communication skills are essential
* The maintenance of confidentiality in information and data management at all times is mandatory
* The post will require the job holder to possess excellent interpersonal and client service skills.
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Person Specification

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | * Experience in scientific research or an equivalent PhD.
* A proven track-record of designing and implementing complex software.
* Extensive experience with at least two common research computing languages, such as: Python, C, C++, JavaScript, Fortran.
* Experience of commonly used software development tools and practices, such as: version control systems; continuous build, integration and testing tools.
 | * Experience as a Research Software Engineer, researcher-developer or working closely with researchers on computational projects.
* History of code contributions to interdisciplinary research projects or the delivery of consultancy services.
* Experience developing and implementing machine learning models.
* Knowledge of the research landscape
 | Application/ Interview |
| Planning and organising | * Demonstrable experience of managing software projects in a research environment, throughout the complete software development lifecycle
* Ability to progress collaborative multi-site activities to meet deadlines and quality standards.
 | * Experience of employing Agile methodologies in software projects.
* A project management qualification.
 | Application/ Interview |
| Problem solving and initiative | * Proven ability to design and implement novel technical solutions to research problems.
* Ability to identify and exploit opportunities for interdisciplinary collaborations e.g., with researchers across the University.
* Able to independently solve a range of problems by responding to varying circumstances
* Ability to apply specialist knowledge to evaluate complex problems and recommend solutions
 | * Proven ability to design and implement novel technical solutions to research problems across disciplines.
 | Application/ Interview |
| Management and teamwork | * Able to take responsibility for planning and delivery of complex multi-developer projects.
* Able to contribute to team efficiency through sharing information and constructively supporting others.
* Able to build and maintain good working relationships across a range of colleagues, clients and stakeholders.
* Able to work effectively independently and identify issues that must be raised with the team.
 | * Experience leading a development team.
 | Application/ Interview |
| Communicating and influencing | * Ability to confidently communicate with senior academics.
* Ability to write clear and concise technical material.
* Ability to prepare and deliver presentations to audiences with different levels of technical ability.
* Ability to identify and articulate requirements and issues arising from meetings and lead a team through the process of resolving these issues.
* Ability to train others and conduct tutorial-style activities.
 | * Experience of Software Carpentry instructing or helping
 | Application/ Interview |
| Other skills and behaviours | * Evidence of good interpersonal skills.
* A flexible approach and manner.
* A willingness and demonstrable experience of learning new technologies and methods of working.
* A passion for research.
 |  | Application/ Interview |
| Special requirements | * Proactive in promoting a working environment that is inclusive and engaging; recognising the value that diversity brings.
 |  | Application/ Interview |

JOB HAZARD ASSESSMENT

Is this an office-based post?

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| ☒ Yes | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| ☐ No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the assessment below.Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all staff, including existing members of staff.

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| ENVIRONMENTAL EXPOSURES | Occasionally (<30% of time) | Frequently(30-60% of time) | Constantly(> 60% of time) |
| Outside work  |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) |  |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation  |  |  |  |
| EQUIPMENT/TOOLS/MACHINES USED |
| ## Food handling  |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV)  |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers)  |  |  |  |
| PHYSICAL ABILITIES |
| Load manual handling |  |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| PSYCHOSOCIAL ISSUES |
| Face to face contact with public |  |  |  |
| Lone working |  |  |  |
| ## Shift work/night work/on call duties  |  |  |  |