Position Description

College/Division: Deputy Vice-Chancellor (Research and Innovation)
Faculty/School/Centre: National Computational Infrastructure (NCI)
Department/Unit: National Computational Infrastructure (NCI)
Position Title: Software Engineer
Classification: ANU Officer 8 (IT)
Position No:
Responsible to: Team Lead, HPC Software and Data Modernisation
Number of positions that report to this role:
Delegation(s) Assigned:

PURPOSE STATEMENT:
The position of Software Engineer will play a major role in software design, testing, development and deployment and management processes to support the diverse and complex needs of research communities using NCI’s High Performance Computing and Data (HPC/D) capabilities. The role is particularly focused on within the earth systems, geosciences, and physical sciences, and emerging priority areas for NCI such as genomics. This role will modernise code by developing, adopting and adapting software and algorithms and new technologies – particularly in the areas of Machine Learning, Deep Learning, and AI to both augment the NCI capabilities and to develop improvements in exiting computational and data analysis codes.

KEY ACCOUNTABILITY AREAS:
Position Dimension & Relationships:
The position of Software Engineer will be located in a team within the portfolio of the Deputy Director (HPC and Data Innovation). The Software Engineer works closely with other members of the HPC and Data Innovation portfolio, as well as colleagues across NCI and external HPC code and software developers as required to enhance research and science outcomes through more effective utilisation of NCI high performance computing and data assets.

Role Statement:
Under the broad direction of the Team Lead, HPC Software and Data Modernisation, NCI, the incumbent will:
- Lead the gathering and assimilation of the diverse and complex technical requirements from the supported research communities and research organisations.
- Working in collaboration with, and as a senior member of, the NCI HPC Software and Data Modernisation team, lead and manage design and development of innovative software, including testing and performance optimisation, to high quality software and code releases that effectively exploit NCI’s data and HPC assets.
- Document software design and development activities and develop measures for performance and capability assessment during the establishment of the software and data infrastructure.
- Lead the use of best practice software methodologies, utilising and improving NCI platforms for development support.
- Play a lead role in the development of processes and procedures that will advance software development at NCI, and, as appropriate, work with staff in comparable or related roles at partner organisations, and other external stakeholders to ensure coordination and interoperability of software and services.
- Contribute to the development of training material to support the use of NCI systems and software.
- Comply with all ANU policies and procedures, and in particular those relating to health and safety, and equal opportunity.
- Other duties, as appropriate to this classification, and as directed.

SELECTION CRITERIA:
1. Postgraduate qualifications and relevant experience or an equivalent combination of experience and education/training.
2. Demonstrated experience in:
   - Software design, software development, testing and deployment, and GIT software version control;

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o Scientific programming including, debugging, optimizing and introducing new algorithms, profiling utilities and Self-describing scientific high performance data formats; and
  o HPC and data programming paradigms and hardware (including GPU accelerators, Machine Learning, Deep Learning and AI).

3. Demonstrated high-level oral and written communication skills and the capacity to engage and communicate effectively with peers and end-users of the service.

4. Capacity to work both as a self-starter, with proven experience in leading projects and/or small teams, and demonstrated capacity to work effectively within a team (both local and distributed) to deliver effective outcomes.

5. A demonstrated high level understanding of equal opportunity principles and a commitment to the application of EO policies in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

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References:
- General Staff Classification Descriptors
- Academic Minimum Standards