**Position Description**

**College/Division:** Research and Innovation

**Department/Unit:** ACCESS National Research Infrastructure (NRI)

**Position Title:** Research Software Engineer (Visualisation Specialist)

**Classification:** ANU Officer 7 (Information Technology)

**Responsible to:** Team Leader

**Number of positions that report to this role:** 0

**PURPOSE STATEMENT:**

ACCESS – The Australian Community Climate and Earth System Simulator – is a collaborative venture between Government and the Australian research community to support development, maintenance and access to climate and weather models and data. ACCESS is being transformed into a national research infrastructure capability accessible by a broader community of users, enabled by Australian Government investment through the National Collaborative Research Infrastructure Strategy (NCRIS). Hosted at ANU, ACCESS-NRI (ACCESS National Research Infrastructure) is established as a multi-party collaborative venture responding to the current and future needs of Australia’s scientific, Government and stakeholder community.

The Software Engineer (Visualisation Specialist) will work collaboratively with the climate and Earth system modelling community to implement software and workflows for the visualisation of ACCESS-NRI models outputs, utilising high-performance computing and big-data approaches for the benefit of the Australian research community. Other tasks include supporting large scale in-situ visualisation efforts covering a variety of scientific datasets. The successful candidate will contribute and/or lead development, optimisation, and deployment of software and workflows that enable climate and earth system modelling, utilising high-performance computing, visualisation and big-data approaches for the benefit of the Australian research community.

**KEY ACCOUNTABILITY AREAS:**

**Position Dimension & Relationships:**

ACCESS-NRI is led by a Director, who will play a national and international role in promotion of the ACCESS modelling capability, contribute to the wider development of climate, earth system and weather modelling in Australia and provide technical and strategic leadership. There are two Associate Directors within the ACCESS-NRI facility (Associate Director, Model Development and Associate Director, Release Management) and 6 Team Leaders in Atmosphere, Ocean, Land and Coupled Model Infrastructure, Software Transformation and Release Management.

The Research Software Engineer (Visualisation Specialist) works within the Model Evaluation and Diagnostics Team. This role will work collaboratively with the ACCESS-NRI teams. The Software Engineer will be expected to work collegially, leading by example to develop and maintain effective, productive and beneficial workplace relationships with colleagues, as well as with industry stakeholders.

**Role Statement:**

Under the broad direction of the Model Evaluation and Diagnostics Team Leader, the Visualisation Specialist will:

- Contribute to the design, evaluation, and implementation of new solutions in the areas of visualisation in line with the requirements of the ACCESS-NRI partnership.
- Engage collaboratively with the ACCESS-NRI research community to ensure that appropriate scientific visualisations are produced and applied optimally.
- Maintain currency with advances in relevant data visualisation systems and services, tools and techniques, through literature, conferences, international working groups, and other means.
- Liaise with key internal and external stakeholders to promote ACCESS-NRI content.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity.
- Other duties as required that are consistent with the classification of the position.

For assistance please contact HR Division Ph. 6125 3346
SELECTION CRITERIA:

1. A degree in Computer Science or related disciplines, or an equivalent combination of experience and education/training. Experience in computer graphics and scientific visualisation would be highly regarded.
2. Experience working with at least two scientific programming languages and knowledge of common data formats.
3. Knowledge of at least one of the following areas:
   - Land surface modelling;
   - Ocean-Sea Ice modelling;
   - Atmospheric modelling;
   - Model evaluation;
   - Optimisation of code in high performance, parallel, computing environments;
   - Machine learning and Data science;
   - Advanced visualisation techniques; or
   - Curating code repositories using distributed software development tools.
4. A high level of understanding and experience in producing visuals in HPC/Cloud environments.
5. Experience in gathering requirements and building software to meet user needs.
6. Experience in working independently with minimal supervision, with an ability to understand code written by others quickly and self-sufficiently.
7. Demonstrated ability to work effectively and harmoniously as part of a team, and excellent interpersonal and communication skills to relate effectively and provide guidance to a wide range of people.
8. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application 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.

Supervisor/Delegate Signature:  Date:

Printed Name:  Uni ID:

References:
- General Staff Classification Descriptors
- Academic Minimum Standards
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Department/Unit: ACCESS National Research Infrastructure (NRI)
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Number of positions that report to this role: 0

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Role Statement:
Under the broad direction of the Model Evaluation and Diagnostics Team Leader, the Visualisation Specialist will:

- Provide significant input into the design, evaluation, and implementation of new solutions in the areas of visualisation in line with the requirements of the ACCESS-NRI partnership.
- Engage collaboratively with the ACCESS-NRI research community to ensure that appropriate scientific visualisations are produced and applied optimally.
- Maintain currency with advances in relevant data visualisation systems and services, tools and techniques, through literature, conferences, international working groups, and other means.
- Liaise with key internal and external stakeholders to promote ACCESS-NRI content.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity.
- Other duties as required that are consistent with the classification of the position.

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SELECTION CRITERIA:

1. Progress towards postgraduate qualifications in Computer Science, Climate Science or related disciplines, and/or significant experience in scientific visualisation.
2. Demonstrated experience working with at least two scientific programming languages and knowledge of common data formats.
3. Experience in at least one of the following areas:
   - Land surface modelling;
   - Ocean-Sea Ice modelling;
   - Atmospheric modelling;
   - Model evaluation;
   - Optimisation of code in high performance, parallel, computing environments;
   - Machine learning and Data science;
   - Advanced visualisation techniques; or
   - Curating code repositories using distributed software development tools.
4. A high level of understanding and experience in producing visuals in HPC/Cloud environments.
5. Demonstrated experience in gathering requirements and building software to meet user needs.
6. Demonstrated ability to provide high-level technical advice and support to researchers and industrial stakeholders.
7. Demonstrated experience in working independently with minimal supervision, with an ability to understand code written by others quickly and self-sufficiently.
8. Demonstrated ability to work effectively and harmoniously as part of a team, and excellent interpersonal and communication skills to relate effectively and provide guidance to a wide range of people.
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