Australian National University

Position Description

College/Division:	Research and Innovation
Department/Unit:	ACCESS National Research Infrastructure (NRI)
Position Title:	Research Software Engineer
Classification:	ANU Officer 8 (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 will provide technical expertise to support ACCESS-NRI's computational and scientific software development within a team of software developers. 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 Software Engineer will operate in one of these 6 ACCESS-NRI teams, reporting to their team lead. 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 their Team Leader, the Software Engineer will:

- Provide significant input into the design, evaluation, and implementation of new software in the areas of climate and earth system modelling in line with the requirements of the ACCESS-NRI partnership.
- As part of a team, contribute to the development, testing, optimisation and maintenance of existing computational climate and earth system models running on high-performance parallel computing platforms.
- Create and maintain documentation and code repositories of software developed by ACCESS-NRI.
- Train and mentor other members of the team, research students and staff across the ACCESS community in numerical and computational techniques.
- Provide advice and technical support through the investigation, resolution and tracking of software issues.
- Ensure that appropriate standards, guidelines and methodologies are adhered to.
- 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.

SELECTION CRITERIA:

1. Progress towards postgraduate qualifications in Computer Science, Climate Science or related disciplines, and/or significant experience in scientific software.
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. Demonstrated experience in gathering requirements and building software to meet user needs.
5. Demonstrated ability to provide high-level technical advice and support to researchers and industrial stakeholders.
6. Demonstrated 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

Australian National University
Pre-Employment Work Environment Report

Position Details

College/Div/Centre	RII	Dept/School/Section	ACCESS-NRI
Position Title	Research Software Engineer	**Classification**	ANU O7/O8
Position No.		**Reference No.**	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form must be completed by the supervisor of the advertised position and appended to the back of the Position Description.

- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.

- Once an applicant has been selected for the position they must familiarise themselves with the University WHS Management System via Handbook guidance https://services.anu.edu.au/human-resources/health-safety/whs-management-system-handbook

- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.

- 'Regular' hazards identified below must be listed as 'Essential' in the Selection Criteria - see ' Employment Medical Procedures' at http://info.anu.edu.au/Policies/_DHR/Procedures/Employment_Medical_Procedures.asp

Potential Hazards

- Please indicate whether the duties associated with appointment will result in exposure to any of the following potential hazards, either as a **regular** or **occasional** part of the duties.

TASK	regular	occasional	TASK	regular	occasional
key boarding	☒	☐	laboratory work	☐	☐
lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
Organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☐	electricity	☐	☐
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			**IONIZING RADIATION**		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			**BIOLOGICAL MATERIALS**		
hazardous substances	☐	☐	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/ carcinogens	☐	☐	clinical specimens, including blood	☐	☐
pesticides / herbicides	☐	☐	genetically-manipulated specimens	☐	☐
			immunisations	☐	☐

OTHER POTENTIAL HAZARDS (please specify):

Supervisor/Delegate Name:	*Andy Hogg*	Date:	*26/02/2024*