Cloud Application Developer

POSITION NO  0040427
CLASSIFICATION  UOM 8
SALARY  $ 115,137 - $124,622 (pro rata for part-time)
SUPERANNUATION  Employer contribution of 17%
WORKING HOURS  Full-time (1.0 FTE)
BASIS OF EMPLOYMENT  Fixed Term; Externally Funded until December 2026

OTHER BENEFITS  https://about.unimelb.edu.au/careers/staff-benefits

HOW TO APPLY  Online applications are preferred. Go to http://about.unimelb.edu.au/careers, select the relevant option (‘Current Opportunities’ or ‘Jobs available to current staff’), then find the position by title or number.

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Please do not send your application to this contact

For information about working for the University of Melbourne, visit our website: about.unimelb.edu.au/careers
Acknowledgement of Country

The University of Melbourne acknowledges the Traditional Owners of the unceded land on which we work, learn and live: the Wurundjeri Woi Wurrung and Bunurong peoples (Burnley, Fishermans Bend, Parkville, Southbank and Werribee campuses), the Yorta Yorta Nation (Dookie and Shepparton campuses), and the Dja Dja Wurrung people (Creswick campus).

The University also acknowledges and is grateful to the Traditional Owners, Elders and Knowledge Holders of all Indigenous nations and clans who have been instrumental in our reconciliation journey.

We recognise the unique place held by Aboriginal and Torres Strait Islander peoples as the original owners and custodians of the lands and waterways across the Australian continent, with histories of continuous connection dating back more than 60,000 years. We also acknowledge their enduring cultural practices of caring for Country.

We pay respect to Elders past, present and future, and acknowledge the importance of Indigenous knowledge in the Academy. As a community of researchers, teachers, professional staff and students we are privileged to work and learn every day with Indigenous colleagues and partners.

Position Summary

The Australian BioCommons is an ambitious digital infrastructure capability that is enhancing Australian research in its ability to understand the molecular basis of life across environmental, agricultural and biomedical science. The Australian BioCommons is seeking a suitably qualified individual to fill the position of Cloud Applications Developer in the Medical Research Futures Fund (MRFF) funded Australian Cardiovascular Disease Commons (ACDC) project.

In this position you will be a central player in our mission to establish digital infrastructure that supports cardiovascular disease research. Your canvas is the Gen3 technology stack, a pioneering data sharing platform designed for the secure management of human data, alongside other technologies which support user authentication, data access, and analytics. The Gen3 technology stack is a Kubernetes-based microservices architecture written in Python, Go, Javascript, Shell Script and Terraform. It uses both relational databases (Postgres) and search indexes (OpenSearch).

Your role will focus on the development and evolution of this platform, which will compile, distribute and analyse a rich array of genomic, lipidomic, and metabolomic data from multiple cohorts to reveal important biomarkers in cardiovascular disease. The platform will run on AWS and you will actively collaborate with other members of the ACDC team, as well as medical research teams from across the country.

You will be leading the technical aspects of the deployment and work independently with limited supervision, embedded within an experienced team that can help when needed.

This role will encompass three areas of responsibility:

- Administer an AWS environment hosting the Gen3 deployment,
- Design and manage the Terraform based deployment with embedded security processes,
- Adapt and maintain the various micro-services of the platform.

At Biocommons, you'll find more than a role – you'll discover a purpose. So, if you're passionate about leveraging technology to create significant, life-changing impacts, we'd love to hear from you.
1. **Key Responsibilities**

- Ability to work independently with broad direction and minimal daily supervision
- Administrate an AWS environment hosting the Gen3 Deployment
  - Maintain a secure AWS environment in which the Gen3-based ACDC is deployed
  - Adapt, update, deploy, monitor and maintain the environment
  - Support dev/test and production environments
  - Create, deploy and maintain a CI/CD pipeline to support a regular test release schedule
- Adapt, integrate and maintain the platform’s microservices
  - Integrate Gen3 with other analysis services like Galaxy Australia, Nextflow Tower and others.
  - Integrate GA4GH standards with Gen3 (GA4GH Visa/Passports)
  - Integrate REMS with Gen3
  - Integrate User Management of Gen3 with CILogon (based on OIDC)
  - Adapt Gen3 codebase to the needs of the ACDC research consortium
- Collaboration and teamwork
  - Work in a team with project managers, frontend developers, bioinformaticians, data engineers and researchers
  - collaborate with the ACDC project team and ensure the platform is fit-for-purpose and aligned with the data governance framework
  - Push changes back to the Gen3 open source project
  - Collaborate with geographically dispersed colleagues and partners around Australia and internationally

2. **Selection Criteria**

2.1 **ESSENTIAL**

- A degree in a relevant discipline, such as software engineering, computer science, or bioinformatics, or extensive equivalent industry experience.
- A proven track record with microservice backends on AWS, along with experience in Terraform.
- A high level of competency in Linux environments, scripting, and automation, and experience with Docker and Kubernetes.
- Proficiency in Python development, with a passion for picking up new technologies and languages quickly.
- An ability to work in a highly collaborative environment, and work independently with broad direction, and interact effectively with project stakeholders from a range of disciplines and institutes.
- Excellent verbal and written communication skills, necessary for documentation and demonstrating software to stakeholders, users and the eResearch community.
- Observing the Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 5.
2.2 DESIRABLE
- Experience with human ‘omics data sharing movement and harmonization
- Knowledge of international standards for human ‘omics data sharing movement and harmonization
- Demonstrated experience and public contributions to existing open-source projects (or other equivalent projects)
- Experience with the Go programming language
- Experience with data ingestion and migration

2.3 OTHER JOB RELATED INFORMATION
- Occasional work out of ordinary hours, travel, etc.

3. Job Complexity, Skills, Knowledge

3.1 LEVEL OF SUPERVISION / INDEPENDENCE
The incumbent will work under broad supervision with a degree of autonomy. It will be expected they will establish their own work plans and engage with the role in a collaborative and results-oriented manner, demonstrating a high level of initiative, technical expertise, leadership and insight.

This position will be located at Australian BioCommons, the University of Melbourne. It reports to the Associate Director (Cyberinfrastructure), BioCommons (co-located with Melbourne Bioinformatics) and requires liaising with teams based at institutions around Australia.

3.2 PROBLEM SOLVING AND JUDGEMENT
The position requires technological leadership, technical skills, judgement and negotiation skills to achieve agreed objectives and obligations with a diverse set of project delivery partners and research stakeholders and institutions across Australia and abroad.

Technical, intellectual agility and personal sensitivity and clear decision-making ability to respond positively and innovatively to achieve project milestones and deliverables.

3.3 PROFESSIONAL AND ORGANISATIONAL KNOWLEDGE
This position requires a significant level of professional and sector. It possess a strong record of development of new ways of applying a specific body of knowledge, that may involve the integration of other specific bodies of knowledge into an existing project.

The ability to solve complex problems by applying judgement based on professional expertise and acquired knowledge.

The incumbent will be required to navigate a wide range of procedures, policies and synthesise technical, scientific information to identify specific solutions within various levels of complexity.
3.4 BREADTH OF THE POSITION

This position will interface with key individuals and organisations in research infrastructure within Australia and internationally.

Occasional work out of ordinary hours to attend meetings with international collaborators.

Domestic and international travel for technical meetings and conferences

4. Equal Opportunity, Diversity and Inclusion

The University is an equal opportunity employer and is committed to providing a workplace free from all forms of unlawful discrimination, harassment, bullying, vilification and victimisation. The University makes decisions on employment, promotion, and reward on the basis of merit.

The University is committed to all aspects of equal opportunity, diversity and inclusion in the workplace and to providing all staff, students, contractors, honorary appointees, volunteers and visitors with a safe, respectful and rewarding environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This commitment is set out in the Advancing Melbourne strategy that addresses diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

The University values diversity because we recognise that the differences in our people’s age, race, ethnicity, culture, gender, nationality, sexual orientation, physical ability and background bring richness to our work environment. Consequently, the People Strategy sets out the strategic aim to drive diversity and inclusion across the University to create an environment where the compounding benefits of a diverse workforce are recognised as vital in our continuous desire to strive for excellence and reach the targets of Advancing Melbourne.

5. Occupational Health and Safety (OHS)

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

https://safety.unimelb.edu.au/people/community/responsibilities-of-personnel

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.

6. Other Information

6.1 MELBOURNE BIOINFORMATICS

https://www.biocommons.org.au/

Melbourne Bioinformatics is host to the Australian BioCommons, a $20M NCRIS-funded research infrastructure program for life science research (2023-2028). It is the mission of BioCommons to:

- sustain strategic leadership in the provision and use of bioinformatics and bioscience data infrastructures at a national scale
actively support life science research communities with community scale digital infrastructure developed and maintained in concert with international peer infrastructures

Provide access to platforms and services that:

- provide sophisticated analysis capabilities, including software and hardware platforms that underpin world class science
- support digital asset stewardship and management, retention, integration and publication solutions as they evolve
- enable researchers to observe best-practice data standards, management, interoperability and publication approaches as they evolve
- provide enduring access to digital techniques, data and tools that are needed by world-class environmental, agricultural and biomedical research
- provide training and support solutions that enable the rapid and broad-based adoption of the above.

6.2 THE FACULTY OF MEDICINE, DENTISTRY & HEALTH SCIENCES

https://mdhs.unimelb.edu.au/

The Faculty of Medicine, Dentistry & Health Sciences has an enviable research record and is the University of Melbourne’s largest faculty in terms of management of financial resources, employment of academic and professional staff, teaching of undergraduate and postgraduate (including research higher degree) students and the conduct of basic and applied research. The Faculty’s annual revenue is $630m with approximately 55% of this income related to research activities.

The Faculty has a student teaching load in excess of 8,500 equivalent full-time students including more than 1,300 research higher degree students. The Faculty has approximately 2,195 staff comprising 642 professional staff and 1,553 research and teaching staff.

The Faculty has appointed Australia’s first Associate Dean (Indigenous Development) to lead the development and implementation of the Faculty’s Reconciliation Action Plan (RAP), which will be aligned with the broader University – wide plan. To enable the Faculty to improve its Indigenous expertise knowledge base, the Faculty’s RAP will address Indigenous employment, Indigenous student recruitment and retention, Indigenous cultural recognition and building partnerships with the Indigenous community as key areas of development.

6.3 THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is a leading international university with a tradition of excellence in teaching and research. The main campus in Parkville is recognised as the hub of Australia’s premier knowledge precinct comprising eight hospitals, many leading research institutes and a wide-range of knowledge-based industries. With outstanding performance in international rankings, the University is at the forefront of higher education in the Asia-Pacific region and the world.

The University employs people of outstanding calibre and offers a unique environment where staff are valued and rewarded.

Further information about working at The University of Melbourne is available at http://about.unimelb.edu.au/careers

6.4 ADVANCING MELBOURNE
The University’s strategic direction is grounded in its purpose. While its expression may change, our purpose is enduring: to benefit society through the transformative impact of education and research. Together, the vision and purpose inform the focus and scale of our aspirations for the coming decade.

Advancing Melbourne reflects the University’s commitment to its people, its place, and its partners. Our aspiration for 2030 is to be known as a world-leading and globally connected Australian university, with our students at the heart of everything we do.

- We will offer students a distinctive and outstanding education and experience, preparing them for success as leaders, change agents and global citizens.
- We will be recognised locally and globally for our leadership on matters of national and global importance, through outstanding research and scholarship and a commitment to collaboration.
- We will be empowered by our sense of place and connections with communities. We will take opportunities to advance both the University and the City of Melbourne in close collaboration and synergy.
- We will deliver this through building a brilliant, diverse and vibrant University community, with strong connections to those we serve.

The means for achieving these goals include the development of the University of Melbourne’s academic and professional staff and the capabilities needed to support a modern, world-class university. Those means require a commitment to ongoing financial sustainability and an ambitious infrastructure program which will reshape the campus and our contribution to the communities we engage with. This strategy, and the priorities proposed, is centred around five intersecting themes; place, community, education, discovery and global.

6.5 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at https://about.unimelb.edu.au/strategy/governance