Senior Software Engineer – Australian Ocean Data Network

College/Division  Research Division
School/Section  Integrated Marine Observing System (IMOS)
Location  Hobart
Classification  HEO 8
Reporting line  Reports to Information Infrastructure Team Lead
Date  June 2023

Position Summary

The Integrated Marine Observing System (IMOS) is a national collaborative research infrastructure, supported by the Australian Government. It is operated as an unincorporated joint venture (UJV), with the University of Tasmania as Lead Agent (http://imos.org.au/). IMOS provides a national, multi-institutional capability to undertake systematic and sustained observing of the marine environment, from the open ocean onto the continental shelf and into the coast, and across physical, chemical and biological variables. IMOS is implemented through a national portfolio of over 60 platform and technology-based Facilities.

All observations undertaken by IMOS produce data streams that are discoverable, accessible, usable and reusable via the Australian Ocean Data Network (AODN). Additional data is incorporated into this network from a wide range of partner organisations including research institutions, federal and state government departments, and private industry.

The AODN is part of the core program delivery within IMOS and provides a single integrated framework for marine data and information management, discovery and access. This infrastructure employs open-source principles and is standards-based, utilising ISO and OGC standards for metadata and data and is hosted on an Amazon Web Services (AWS) platform to deliver information infrastructure for IMOS and the broader community.

The AODN is seeking a Senior Software Engineer to manage a small highly skilled team to build and support the geospatial and web-based applications and services of the AODN. The candidate would be a highly organised individual with excellent communication skills with the ability to build and maintain effective working relationships with staff and collaborators from a wide range of academic and technical backgrounds. The candidate will have relevant qualifications in computer science, information technology and/or geospatial sciences with experience in leading agile teams in successful product delivery. The successful candidate should have experience in the ingestion, management and delivery of geospatial data and software development.

This person will provide expertise in system design to support the development of new data-driven systems and the maintenance and improvement of existing systems. They will provide expert guidance in the ongoing development and implementation of the information infrastructure underpinning IMOS and the AODN. You will be working in a dynamic environment, collaborating with skilled technicians who are passionate about technology and making a tangible difference.

We are an inclusive workplace committed to ‘working from the strength that diversity brings’ reflected in our Statement of Values. We are dedicated to attracting, retaining and developing our people and are committed to inclusive principles. We celebrate the range of diverse assets that gender identity, ethnicity, sexual orientation, disability, age and life course bring. Applications are encouraged from all sectors of the community. Tell us how we can make this job work for you.
What You’ll Do

• Guide the team to support and maintain existing geospatial and web-based applications and services within the information infrastructure hosted on Amazon Web Services (AWS) that underpins the AODN.
• Work with the solution architect and other members of the AODN team on system design, delivery and maintenance of new data driven web-based applications and data services.
• Work with the solution architect in the development of protocols, standards and guidelines and drive and monitor these standards within the team.
• Contribute to setting the technological roadmap and clearly and concisely communicate goals, tasks and other organisational needs to your team.
• Work with internal (IMOS/AODN) and external stakeholders (domain experts) to perform system analysis, tasks – requirements gathering, user interface and system design as required.
• Guide project implementation of new web-based data management systems – including associated design (software and database), implementation, release planning and data migration activities.
• Provide expert guidance and direction for the ingestion, management and publishing heterogeneous and high-volume scientific data.
• Ensure all systems, processes and procedures are properly and adequately documented including code, and manuals for the use and management of systems.
• Guide and direct QA/QC processes to ensure a high-level quality for our new applications and services.
• Provide leadership and guidance to the team to ensure they well supported in all aspects of their work.
• Undertake new technology research and development activities as required.

What We Offer

• Flexible working arrangements including remote work and reduced hours.
• Relocation assistance if required.
• Advantageous salary packaging options
• 17% superannuation
• Great social environment with many organised social events
• Waterfront location in the heart of Salamanca Hobart
• Working on interesting and meaningful digital products that make a tangible difference to society, science and the natural environment.

What We’re Looking For (success criteria)

• Tertiary qualifications in Information Technology, Systems Engineering or similar or equivalent experience with extensive programming skills in Java or Python or web technologies within agile software development teams.
• Demonstrated technical leadership with an ability to develop team members and transfer knowledge to team members as required.
• Specific and detailed understanding of modern data technologies and methods (e.g. Big Data, Machine Learning, Micro-services, REST API's)
• Experience developing solutions using a cloud provider such as Amazon Web Services, or Microsoft Azure
• Extensive experience in a software/systems development role in web-based systems and/or data processing/warehousing systems using ETL (Extract, Transform and Load) pipelines for the purpose of data analytics.
• Highly developed technical problem-solving skills with demonstrated ability to take ownerships of a complex problem and provide solutions.
• Detail oriented with well-developed written and verbal communications that result in effective and appropriate communication, including the ability to communicate complex concepts clearly and concisely.
• Experience in the SCRUM framework for agile project delivery
Other Desirable Position Requirements

- A strong knowledge of data management theory and database design and with practical experience using PostgreSQL and PostGIS.
- Experience working with geo-spatial data or research datasets.

Applicants are required to address the success criteria in their application.

It is not the intention of the position description to limit the scope or accountabilities of the position but to highlight the most important aspects of the position. The aspects mentioned above may be altered in accordance with the changing requirements of the role.

University of Tasmania

The University of Tasmania is an institution with an enduring commitment to our state and community, and a strong global outlook. We are committed to enhancing the intellectual, economic, social and cultural future of Tasmania. Our Strategic Direction strongly reflects the University community's voice that our University must be place based but globally connected as well as regionally networked and designed to deliver quality access to higher education for the whole State.

We believe that from our unique position here in Tasmania we can impact the world through the contributions of our staff, students and graduates. We recognise that achieving this vision is dependent on the people we employ, as well as creating a university that is values-based, relational, diverse, and development-focused.

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