



Australian Government



AUSTRALIAN INSTITUTE
OF MARINE SCIENCE

DATA PIPELINE ENGINEER

DATA AND DIGITAL ENGINEERING TEAM

CANDIDATE INFORMATION PACK



CONTENTS

About AIMS	3
About the team	4
About the position	5
How to apply	6
Key Selection Criteria	7
Position Description	8
About Townsville	12



AIMS was awarded Athena Swan Bronze status in 2020 by the Science in Australia Gender Equity (SAGE) program. This award recognises AIMS' commitment to improving gender equity, diversity and inclusion in STEMM disciplines.

The Australian Institute of Marine Science acknowledges the Traditional Owners of the land and sea on which we work. We recognise the unique relationships and enduring cultural and spiritual connection that Aboriginal and Torres Strait Islander people have to land and sea, and pay our respects to Elders past, present and future.

Photographic credit: Shaun Hahn, Joe Gioffre, Christian Miller, Steve Clarke, Christian Miller, Chris Brunner, Nick Thake, David Deeley

ABOUT AIMS

The Australian Institute of Marine Science is a corporate Commonwealth entity established under the [Australian Institute of Marine Science Act 1972](#) (AIMS Act). As Australia's tropical marine research agency, it is [our mission](#) to provide the research and knowledge of Australia's tropical marine estate required to support growth in its sustainable use, effective environmental management and protection of its unique ecosystems.

To accomplish [our mission](#), AIMS delivers independent science to help realise three key long-term impacts for the nation:

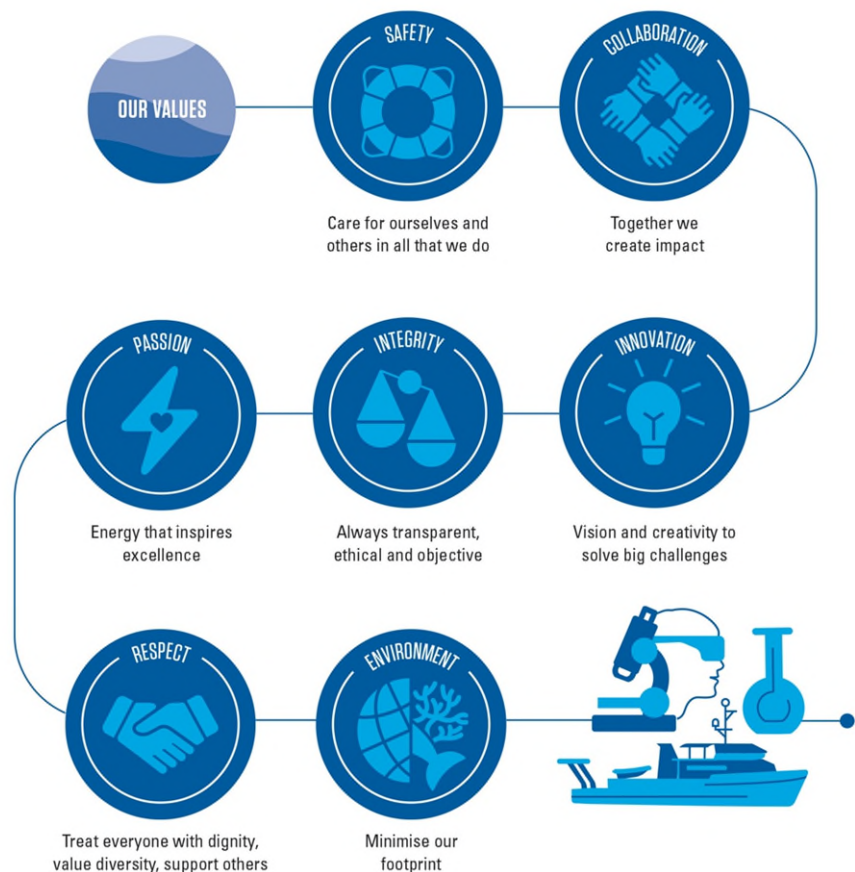
- Improve the health and resilience of marine and coastal ecosystems across northern Australia.
- Create economic, social and environmental net benefits for marine industries and coastal communities.
- Protect coral reefs and other tropical marine environments from the effects of climate change.

Our research is focused on the priorities of Traditional Owners and our stakeholders, including Commonwealth, state and territory governments, and industry. Our research continues to:

- Underpin Australia's environmental management of the Great Barrier Reef (GBR) to ensure that this World Heritage Area remains healthy and resilient.
- Support the sustainable development of coastal industries and ports across northern Australia.
- Provide the environmental baselines and condition and risk assessments required for current and future resource and industrial developments in Northern Australia.

At AIMS, [the way we work](#) guides our team members' on their collective journey towards the successful delivery of our [AIMS Strategy 2030](#) targets.

THE WAY WE WORK



ABOUT DATA SCIENCE AND RESEARCH SERVICES PROGRAM'S DATA AND DIGITAL ENGINEERING TEAM

Data and digital engineer form the backbone of AIMS digital transformation. The groups' mission is to develop innovative and user-centric digital solutions that power marine science research and enable greater collaboration, accessibility, and delivery of outcomes.

The data and digital engineering group is responsible for innovative digital solutions such as ReefCloud that are transforming AIMS' ability to monitor and develop insights on the marine environment, as well as AIMS' research data management systems that are integral to the way research teams produce and deliver their outcomes. Data and Digital Engineering are an innovative and agile cross functional software development group that work closely with all Programs and research teams at AIMS.

The group combines analytical skills and innovative problem solving to ensure our digital solutions are transformational tools for our end-users, stakeholders, and partners. They work on diverse projects across AIMS that range digital products, technology solutions, short and long-term, and strategic initiatives. The team contributes to projects and initiatives across our Research Programs, Technology Development, and Research and Corporate Services



ABOUT OUR DATA PIPELINE ENGINEER POSITION

About this opportunity

Our Data Pipeline Engineer you will work actively to design, develop and improve key digital workstreams associated with emerging physical technological solutions. You will model current and emerging data collection volumes and types, develop and optimise workflows including structured and unstructured data.

You will work with various teams that collect, process and utilise data to drive innovation and mentor and advise on best practice modelling pipeline design, and the implementation and deployment of end-to-end workflows.

Your focus will be on enhancing end-user experience and uplifting the data and digital capabilities within a hybrid environment.

About you

You will hold an Advanced degree (Master or PhD level) in Software Engineering, Computer Science, Data Science or a related field along with experience with a range of structured and non-structures data. You will have demonstrated experience in the use of SQL and NoSQL databases along with an ability to design, develop and optimise existing and new data workflows.

You will be proficient in programming and data extraction languages including Python and Java and be experienced in applying data interface standards and promoting consistent data workflows through documented digital architecture solutions.

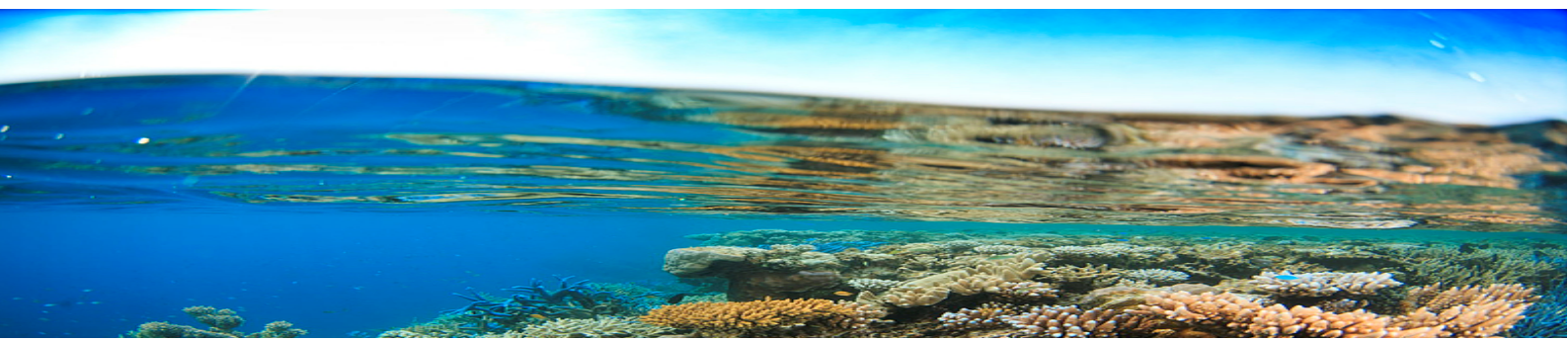
Our ideal candidate will have experience with Cloud services including data pipeline services and bring project and stakeholder management skills along with Project and stakeholder management skills.

Non-Australian Citizens must hold an appropriate Visa with working entitlements that allows paid employment with AIMS from commencement and for the term of the appointment, depending on the relevant [Department of Home Affairs](#) current policies. AIMS may be able to consider sponsorship for international applicants for this role, however, please note that visa processing times can impact the ability for AIMS to consider sponsorship for vacancies. AIMS must meet the requirements of the Department of Home Affairs immigration policies and processes, including the necessity to test the local labour market for suitable applicants. This includes international talent pool members who are Australian visa holders who have relevant working rights.

If, after reviewing the position description (refer pages 8 - 11), you believe that your qualifications, experience and professional capabilities will enable you to successfully deliver the position responsibilities, we would be very interested in hearing from you.

Apply now and join a world leading organisation with attractive working conditions which are detailed in our [Enterprise Agreement](#). The successful candidate for this exciting opportunity will be rewarded with:

- AIMS AOF Level 5 salary (\$117,806 to \$129,148 per annum) plus 15.4% superannuation
- Full-time, Permanent opportunity
- Located in Townsville, Queensland. Commuter car arrangements to site available
- 9-day fortnight
- Flexible Work Arrangements considered (including tele-working where possible)
- Generous leave provisions
- Free onsite gym and optional Fitness passport
- Relocation assistance available



HOW TO APPLY

Your application submission for this opportunity should include the following documentation:

- Current Resume (including the contact details for two current referees);
- Document addressing the Key Selection Criteria (refer to page 7) within the scope of the position description (refer to page 8-11); and
- A short cover letter.

NB: Our preference is that you include a list of your qualifications, publications, certificates and/or licences in your resume. Do not attach these documents to your application as these will not be provided to the selection panel.

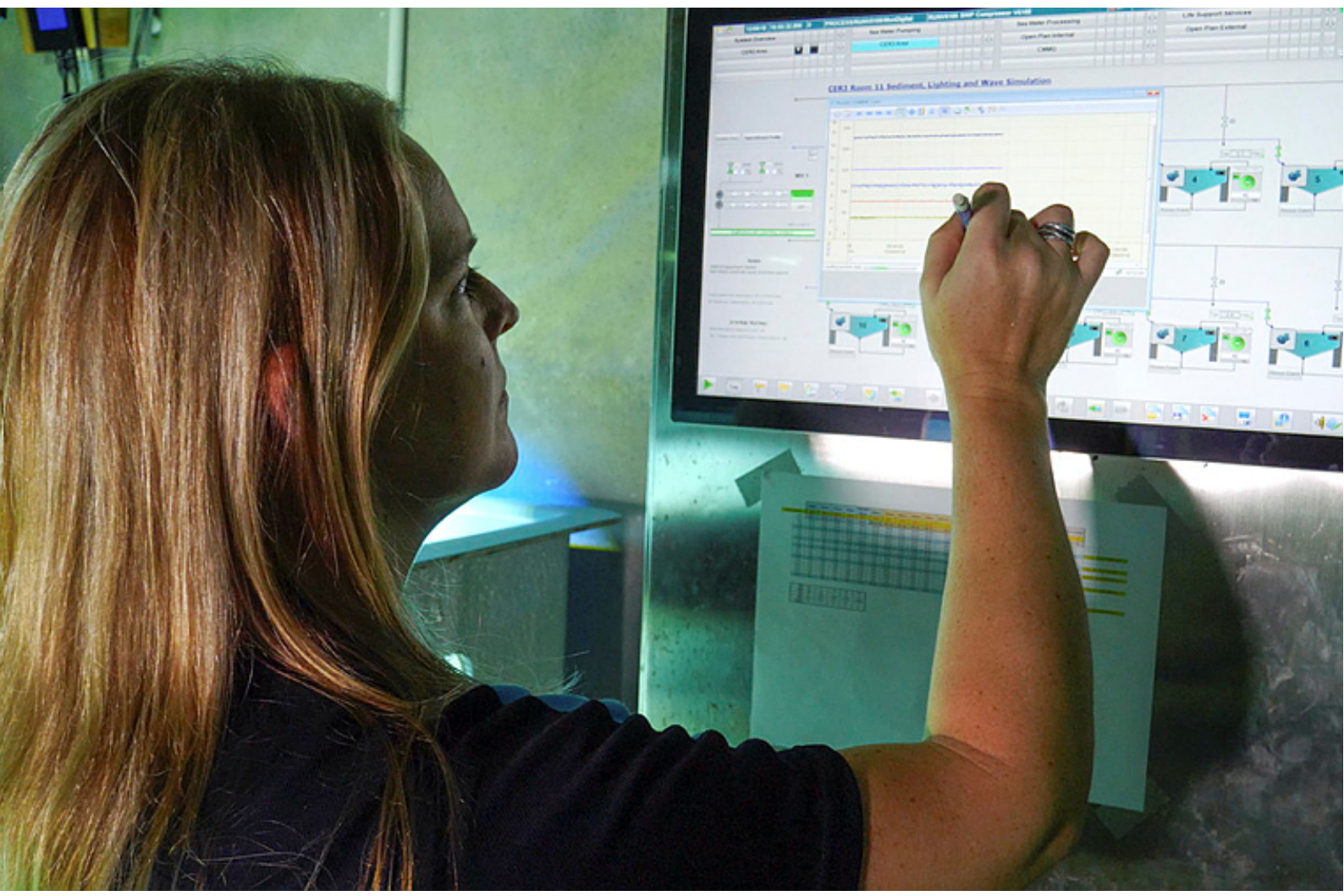
How to apply: Please submit your application via our [website](https://aims.gov.au) (aims.gov.au).

Further information on the application process and tips for addressing Selection Criteria is available in our [Recruitment Application Guide](#).

Recruitment contact: Position enquiries can be directed to Aleksandar Zivaljevic, Manager, Data and Digital Engineering at a.zivaljevic@aims.gov.au. *Applications must be made through our website per above.*

Closing date: MONDAY, 12 AUGUST 2024 (midnight, AEST).

NB: Applicant survey: *All applicants will be invited to complete a voluntary survey after the vacancy closing date. Your responses to this survey do not form part of your application for this position. Further information about the purpose of this survey will be provided to you in the invitation.*



KEY SELECTION CRITERIA

Your application submission should address the following Selection Criteria. Please address each Selection Criteria in a separate paragraph (maximum 250 words per criteria) and in a single document. The selection criteria and your CV are the documents against which we assess your suitability for the position.

Your responses to the following Key Selection Criteria must evidence your suitability for this exciting opportunity within the scope of the position description (pages 8-11).

Essential

- Advanced degree (Master or PhD level) in Software Engineering, Computer Science, Data Science or a related field from a recognised provider
- Previous experience in a data engineering or related field with at least five years practical work experience in a relevant role.
- Demonstrated understanding of and experience with a range of structured and non-structured data including use of SQL and NoSQL databases, understanding of data warehousing concepts, demonstrated ability to design, develop and optimise existing and new data workflows.
- Proficiency in programming / data extraction languages with a preference for SQL, Python and Java.

Desirable

- Experience with cloud services like AWS and Microsoft Azure, including their data pipeline services like AWS Glue and Azure Data Factory.
- Project and stakeholder management skills with demonstrated ability to work in an environment with multiple projects and timelines.
- Demonstrated high-level communication and inter-personal skills with demonstrated experience in working with non-technical stakeholders, clients and end users.



POSITION DESCRIPTION: DATA PIPELINE ENGINEER

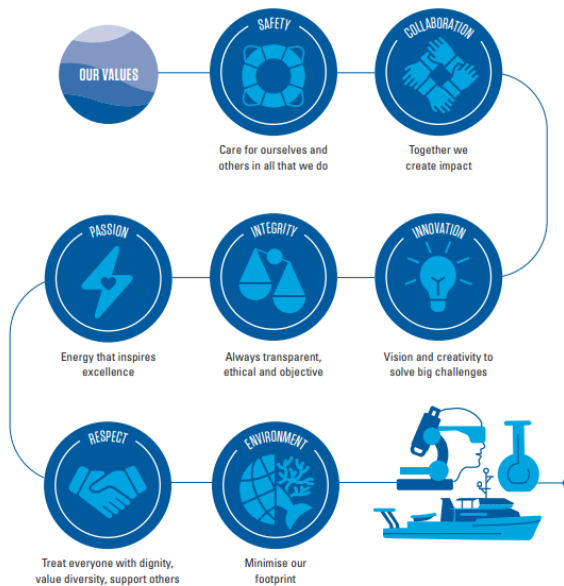
Position Description			
Position Title:	Data Pipeline Engineer		
Position Number:	21813		
Organisational Unit Name and Number:	Data and Digital Engineering (6401)	Program:	Data Science and Research Services (P4)
Salary cost centre:	6401		
Primary Location:	Townsville		
Agreement:	AIMS Enterprise Agreement 2024 – 2027 (and any subsequent agreement)		
Position Classification:	AOF Level 5	FTE Status:	Full-time (1.0 FTE)
First Level Supervisor:	Manager, Data and Digital Engineering (21042)		
Positions under Direct Supervision:	Nil		
Functional Area:	Research Projects		

AIMS Strategy 2030

Our Mission

To provide the research and knowledge of Australia's tropical marine estate required to support growth in its sustainable use, effective environmental management, and protection of its unique ecosystems.

The Way We Work



Position Summary:

As a Senior Data Engineer, this position will actively work to design, develop and improve key digital workstreams associated with emerging physical technological solutions (such as marine monitoring solutions), in line with AIMS Digital Plan, to support the delivery of AIMS Strategy 2030 to translate AIMS core data into digital products and platforms and solutions. The role is required to understand and model current and emerging data collection volumes and types, design, develop and optimise workflows that will include structured and unstructured data with the workflow outputs driving decision models and delayed mode complex decision support systems.

Working with teams that collect, process, and utilise data the role will drive innovation and mentor and advise on best practice data modelling, pipeline design, and the implementation and deployment of end-to-end workflows to deliver quality data to stakeholders, increasing trust, enhancing end-users experience, and uplifting the data and digital capabilities of colleagues within a hybrid environment including edge devices, on-premise and cloud infrastructure.

POSITION DESCRIPTION - CONTINUED

<p>Position Responsibilities:</p>	<ul style="list-style-type: none"> • Contribute to the development of multiple platforms and innovative products being developed at AIMS and the data workflows they generate including ReefCloud and ReefScan. • Lead the analysis and modelling of current and anticipated data types and volumes to determine optimal collection rates and methods for acquisition, modelling, analysis and flow of data. • Provide expertise in data modelling, data workflow optimisation, programming and data science techniques to design and implement data architectures that deliver functional workflows from end-end in a hybrid environment include edge, on-premises, and cloud infrastructure. • Work with data custodians and research scientists to design and develop the underlying data models and workflows to deliver information and knowledge outcomes from the data to a range of dashboards, models, and information systems. • Work to develop data quality systems and measures that identify and document the provenance of the data set and which can be used to drive appropriate use of the data and facilitate trust in the data outcomes such as models and synthesis reports. • Research and implement new technologies and tools to optimise and automate the data lifecycle. • Provide data engineering support following FAIR data principles, facilitating data inventory, cataloguing, search and exploration capabilities, work with internal and external clients to facilitate data and information uptake and use. • Monitor analytics and metrics to identify and implement optimisations. Proactively identify bottlenecks, conducting regular process audits to refine workflows while meeting set regulations and policies to protect data integrity and privacy. • Establish and maintain comprehensive documentation of systems, data flows and processing procedures to report on data pipeline performance for continual improvement. • Support data and digital literacy and innovation initiatives, encourage data driven decision making and establish frameworks and workflows to facilitate and data driven culture at AIMS. <p>AIMS Core:</p> <ul style="list-style-type: none"> • Comply with AIMS' Code of Conduct ensuring the standards of conduct required of an AIMS staff member are upheld. • Be an active and contributing employee dedicated to upholding and promoting AIMS' Strategy 2030 and acting in accordance with our Values.
<p>Key Responsibilities and Performance Standards</p>	
<p>Science Outputs:</p>	<p>Milestones: The position will contribute to the delivery of internal and external project milestones and so will be done to existing project schedules</p> <p>Publications: The position may be required to contribute to scientific and technical publications around the work being undertaken.</p> <p>Presentations: The role will require presentations internally to other groups in the Institute, including working directly with internal and external clients as well as presenting to external parties as required.</p> <p>Intellectual Assets: The position may include the development and management of code and other Intellectual Assets and so will require these be managed to the appropriate standards.</p>
<p>Work Health and Safety (For All Staff)</p>	<ul style="list-style-type: none"> • Comply with AIMS' WHS policies and procedures to ensure a safe workplace. • Identify workplace hazards and take corrective action with your supervisor's guidance. • Take reasonable care to ensure your own safety and health at work. • Avoid adversely affecting the safety and physical or psychological health of any other person. • Identify and report health and safety hazards, incidents, injuries or property damage at the workplace. • Comply with health and safety instructions as indicated. • Ensure correct Personal Protective Equipment (PPE) is used for the task or activity as applicable. Take care to follow signage and direction as indicated. • Complete WHS Inductions as directed.

POSITION DESCRIPTION - CONTINUED

	<ul style="list-style-type: none"> • Strong commitment to and sound knowledge of principles and practices of Work Health and Safety and Workplace Diversity and Inclusion. • Ensure early reporting of physical or psychological factors that may impact on the completion of your daily position responsibilities so that reasonable adjustments may be considered. • Comply with Visitor Registration procedures and ensure visitors that you sponsor complete the relevant WHS inductions prior to attendance at the applicable AIMS site. 												
Work Health & Safety – Minimum Functional Requirements	<p>Participate in Manual Task (Functional) Assessments and Fit for Work medical assessments as required.</p> <p>Minimum functional requirements*:</p> <table border="1" data-bbox="534 616 1492 824"> <tr> <td>Maximum lift expected (5kg, 10kg, 25 kg)</td> <td>10kg</td> </tr> <tr> <td>% role mobilising</td> <td>20%</td> </tr> <tr> <td>% role sitting</td> <td>60%</td> </tr> <tr> <td>% role standing/static positions</td> <td>20%</td> </tr> <tr> <td>% role diving</td> <td>0%</td> </tr> <tr> <td>Work in offshore or remote locations for extended periods of time</td> <td>No</td> </tr> </table> <p><i>AIMS is an inclusive employer and will assess if modifications to the above work requirements can be made if provided with Reasonable Adjustment criteria from your Treating Doctor or other suitably qualified medical professional. Please consider the inherent physical requirements of the Position when making your request for Reasonable Adjustment.</i></p> <ul style="list-style-type: none"> • AIMS strongly encourages all employees to be fully vaccinated against COVID-19. Whilst it is not currently a mandatory requirement for this role, AIMS reserves the right to review its position and policy on mandatory vaccinations. It may therefore become a mandatory requirement for this role in the future. 	Maximum lift expected (5kg, 10kg, 25 kg)	10kg	% role mobilising	20%	% role sitting	60%	% role standing/static positions	20%	% role diving	0%	Work in offshore or remote locations for extended periods of time	No
Maximum lift expected (5kg, 10kg, 25 kg)	10kg												
% role mobilising	20%												
% role sitting	60%												
% role standing/static positions	20%												
% role diving	0%												
Work in offshore or remote locations for extended periods of time	No												
Intellectual Assets:	<ul style="list-style-type: none"> • Ensure compliance with AIMS' Intellectual Property policies, procedures and guidelines to ensure AIMS' intellectual assets are appropriately protected and managed. • Where responsible for programming code and system documentation, manage this in a way that documents and protects AIMS' Intellectual Property and that of any other parties involved in the work. 												
Financial responsibilities and accountabilities and delegations:	<ul style="list-style-type: none"> • Delegations are in line with Financial and Contract Delegation Policy, which includes authorisation levels for Financial, Enterprise Agreement (supervisory), HS&E and General Administrative activities. • Contribute to positional budget requirements. • Manage AIMS funds and resources in a responsible manner and within delegation. • Comply with AIMS' Fraud Prevention Plan ensuring the standards of conduct and ethical behaviour required of an AIMS staff member are upheld and that suspected fraudulent activity is prevented and/or reported. 												
Working as a team:	<ul style="list-style-type: none"> • To work constructively as a member of a multi-disciplinary team that values diversity while ensuring the achievement of AIMS' goals and objectives. • Well-developed interpersonal and communication skills including the capabilities to effectively consult, collaborate and liaise with other team members on science/technical and non-science/technical issues for the purpose of achieving team objectives and maintaining a positive team environment. 												
External Customer, Partner, Collaborator and Stakeholder Requirements:	<ul style="list-style-type: none"> • Nurture existing relationships and initiate new ones in consultation with the CEO and other ALT members. • Work within internal data custodians and users to document their data, data workflows and information needs to develop data workflows to meet their needs. • Work with external parties to understand data and information delivery requirements, the use and availability of data under FAIR principles, and the requirements around access and use of data that is restricted, or which has underlying cultural sensitivities. • Represent the Institute at appropriate external functions including workshops, symposia, conferences and so on. 												
Innovation, problem solving and continuous improvement responsibilities:	<ul style="list-style-type: none"> • Work to document the performance of existing workflows and processing systems and investigate new methods for improving performance from edge computing devices through to on premise data storage and cloud-based systems. 												

POSITION DESCRIPTION - CONTINUED

	<ul style="list-style-type: none"> Investigate new data platforms, processing systems, hardware and software solutions that may be suitable for some of the AIMS data workflows. Mentor internal staff and be a domain expert around emerging solutions including new programming, data storage and processing technologies. Assist in the improvement of the day-to-day operations, systems and processes associated with AIMS. Support team members to review and analyse processes to identify improvements and celebrate efforts towards continuous improvement. Approach all tasks and activities from a risk management perspective.
Performance management and planning responsibilities:	<ul style="list-style-type: none"> Actively work with Project Managers to plan work packages and then to ensure work package tasks are completed on time. Plan work activities to ensure the achievement of timelines. Ensure timely and accurate completion of required tasks. Actively participate in own personal performance planning and evaluation. Successfully participate in the AIMS annual Performance and Development program.
Communication responsibilities:	<ul style="list-style-type: none"> Use your communication and organisational skills to collaborate with data and information creators and users to understand their needs and how these can be met within the context of the AIMS Digital Plan. Comply with AIMS' Social Media policy. Ensure use of private Social Media accounts and other e-communication platforms are in compliance with AIMS policies and procedures, as amended from time to time. Refer to Corporate Style Guide for the production of documents, procedures, presentations and other communication material.
Technology and Equipment:	<p>Utilise AIMS Technology and Equipment as required and directed such as:</p> <ul style="list-style-type: none"> Networked personal computer and general office equipment. EDMS – TechOne ECM, Procurement, P&C, Finance modules Microsoft Project, Microsoft 365 applications AIMS Fleet Vehicles (including Commuter Car Arrangements)
Selection Criteria	
Essential Qualifications and Experience:	<ul style="list-style-type: none"> Advanced degree (Master or PhD level) in Software Engineering, Computer Science, Data Science or a related field from a recognised provider Previous experience in a data engineering or related field with at least five years practical work experience in a relevant role. Demonstrated understanding of and experience with a range of structured and non-structured data including use of SQL and NoSQL databases, understanding of data warehousing concepts, demonstrated ability to design, develop and optimise existing and new data workflows. Proficiency in programming / data extraction languages with a preference for SQL, Python and Java.
Desirable Qualifications and Experience:	<ul style="list-style-type: none"> Experience with cloud services like AWS and Microsoft Azure, including their data pipeline services like AWS Glue and Azure Data Factory. Project and stakeholder management skills with demonstrated ability to work in an environment with multiple projects and timelines. Demonstrated high-level communication and inter-personal skills with demonstrated experience in working with non-technical stakeholders, clients and end users.



ABOUT OUR LOCATION



Townsville (QLD) Facility

AIMS headquarters is south of Townsville, Queensland at Cape Ferguson. We are about 50 km from Townsville’s CBD, is an international landmark in tropical marine science and home to the [National Sea Simulator \(SeaSim\)](#). We are adjacent to the centre of the Great Barrier Reef and surrounded by a 207-hectare national park and marine reserve. The area is free from development, is biosecure and has access to clean seawater and a protected harbour.

Finding us (see more on our website):

Head south from Townsville on the Bruce Highway (A1). Approximately 37 km from the city centre, turn left at the signposted turn-off to AIMS, onto Cape Cleveland Rd. Follow this road for a further 16 km until you arrive at the Institute. Please note there is **no public transport** to the Institute however employee commuter car arrangements are detailed in our [Enterprise Agreement \(Part I – Commuting Arrangements – Cape Ferguson\)](#).

Townsville Traditional Owner Groups (visit the [Townsville City Council website](#))

Our Traditional owners and custodians, the Bindal and Wulgurukaba People are the first people to have lived in the Townsville region.

- **The Bindal People**

The Bindal people call the country “Thul Garrie Waja”. An important symbol for the Bindal people is the shooting star. They believe that wherever the star fell, or the direction the star fell meant there was either danger coming or someone from that direction was in need of help or in danger.

- **The Wulgurukaba People**

The Wulgurukaba people call their country “Gurrumbilbarra”. Wulgurukaba means “canoe people”. An important symbol of the Wulgurukaba people is the carpet snake. Wulgurukabas creation story tells the story of the creation snake that comes down from the Herbert River, went out to sea, creating the Hinchinbrook Channel, and down to Palm and Magnetic Islands. His body broke up, leaving parts along the coast. The tail of the snake is at Halifax Bay, his body is at Palm Island, while his head rests at Arcadia, Magnetic Island.

Living in Townsville

Townsville is a vibrant and rapidly growing city in North Queensland. Surrounded by the Great Barrier Reef, numerous coastal islands, the Wet Tropics rainforest and the outback, and less than two hours by plane from Brisbane, the region experiences a warm tropical climate with more than 300 days of sunshine each year.

A diverse economic base with strengths in government administration, health, defence, education, marine science, natural resource management, manufacturing and mining, ports and shipping and agriculture supports a current population of over 190,000 people.

Boasting a relaxed lifestyle, residents of Townsville enjoy access to world class educational, medical, sporting and recreational facilities. Townsville attracts high quality national and international festivals, cultural and sporting events.

For further information visit www.townsville.qld.gov.au and

[Live North Queensland](#)

