Australian Government
Bureau of Meteorology

A NEW OUTLOOK
FOR YOUR CAREER

Data Scientist

Executive Level 1

JOB REFERENCE NUMBER	60016178
CLASSIFICATION	Executive Level 1 (Senior Information Technology Officer Grade C)
GROUP	Business Solutions
PROGRAM	Aviation, Land & Maritime Transport
LOCATION	Melbourne or Brisbane
STATUS	Non-ongoing specified task to 30 June 2021
WORKING HOURS	Both full time and part time will be considered
SALARY RANGE	$98,209 to $110,623, plus an additional 15.4% superannuation
CLOSING DATE	11:30pm AEST/AEDT Tuesday 13th October 2020
APPLICANTS	Australian Citizenship – see Eligibility Requirements
CONTACT OFFICER	Emma Lybrand, Aviation Solutions Meteorologist Phone: 0411 405 828 Email: emma.lybrand@bom.gov.au

Australian Government
Bureau of Meteorology

ABOUT US

The Bureau of Meteorology is one of the few organisations that touches the lives of all Australians and all Australia, every day. The Bureau works across Australia and remote islands, providing services from the Antarctic to beyond the equator, and from the Indian Ocean to the Pacific.

We are Australia's national weather, climate and water agency, in the Agriculture, Water and Environment portfolio of the Australian Government, operating under the authority of the Meteorology Act 1955 and the Water Act 2007. We provide data, information, knowledge, insight and wisdom to help Australians prepare and respond to the realities of their natural environment, including droughts, floods, fires, storms, tsunami and tropical cyclones.

Our products and services include observations, forecasts, analysis and advice covering Australia's atmosphere, water, oceans and space environments. We undertake focussed scientific research in support of our operations and services. Through regular forecasts, warnings, monitoring and advice, we provide one of Australia's most fundamental and widely used public services.

We have strong relationships with our customers, partners and stakeholders in Australia, including the Australian Community and the emergency services sectors, all-levels of Government, and focus sectors including aviation, agriculture, energy and resources, national security and water.

Our vision is…

To be an organisation of global standing, that is highly valued by the community for our pivotal role in enabling a safe, prosperous, secure and healthy Australia.

to achieve our mission…

To provide trusted, reliable and responsive weather, water, climate and ocean services for Australia – all day, every day.

by focussing on…

- Impact and Value
- Operational Excellence
- Insight and Innovation
- The Bureau Way

To contribute to a future with zero lives lost through natural hazards

Contribute to $2 billion of added social and economic value to the Australian community by 2022.

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WORKING AT THE BUREAU

The Bureau represents a dynamic and exciting opportunity. A role with the Bureau involves:

OUR WORK	OUR PEOPLE	OUR ENVIROMENT	OUR EXPIERENCE
Purpose-driven impactful work that brings real benefit to the Australian Community, businesses and industry.	A deeply passionate and highly skilled workforce that continuously challenges the status quo to achieve greater impact and experiences for our colleagues and customers.	A world class organisation with excellent workplaces in great locations, access to cutting-edge technology and a safe and inclusive environment for everyone.	A commitment to professional development and growth, backed by clear career pathways and training opportunities, and complimented by a competitive remuneration package.

POSITION OVERVIEW

The successful applicant will join the Bureau of Meteorology's Data Science team to deliver data driven insights and shape the future of meteorological services. You will partner with a multi-disciplinary team of data scientists, data engineers, and application developers working on the Collaborative Convective Forecasting Project, a prototype, state-of-the-art thunderstorm nowcasting capability to that seeks to mitigate the impact of convective weather on air traffic flow management. The first phase of the Collaborative Convective Forecasting Project has delivered thunderstorm nowcasts from competing forecast systems; our challenge now is to assess the quality of each system and generate a performance weighted forecast ensemble that optimises the quality of the ensemble consensus.

Satellite observations, radar, aircraft location data, ground reports and lightning observations will be used to assess the quality of each thunderstorm nowcast and inform the composition of the resulting forecast ensemble.

A key part of your role will be applying machine learning techniques in concert with established heuristic approaches to optimise system performance.

Ideally you will have a mathematical background with a track record of delivering statistical insights and machine learning applications, however this is also a great opportunity to establish a career undertaking research for the public good, in a supportive environment that values inclusiveness and integrity.

To develop AI solutions you will: prepare big data, select appropriate statistical and machine learning techniques, build & validate models, evaluate models in light of objectives, deploy completed models and maintain models by identifying model drift and retraining.

ROLE RESPONSIBILITIES

The responsibilities of the role include but are not limited to:

1. Preparing big data and undertaking research on the selection of appropriate statistical and machine learning techniques.
2. Undertaking data processing, statistical analysis and systems support.
3. Building, validating and deploying completed models and undertaking verification of the developed products.

4. Communicating results through reports and presentations.
5. Liaising with project stakeholders, customers and Bureau leaders.
6. Complying with all Bureau work, health and safety policies and procedures, and taking reasonable care for your own health and safety and that of employees, contractors and visitors who may be affected by your conduct.
7. Being aware of, and applying as necessary, the principles and practices of the various elements of the Bureau's Commitment to Diversity and Inclusion.

SELECTION CRITERIA

The Bureau encourages applications from all suitably qualified candidates. Applications will be considered based on alignment with selection criteria, which have been matched to the APSC Work Level Standard and Integrated Leaderships Systems for Executive Level 1 positions.

Specialist knowledge

- Demonstrated strong computational skills using statistical programming languages
- Strong proficiency in statistical and machine learning predictive modelling, including comprehension of theory, modelling/identification strategies, and limitations and pitfalls
- Proficiency in unsupervised learning, reinforcement learning, experiments, and optimisation
- Experience with hierarchical Bayesian models, structural equation models, deep learning, time series, or model-based design of experiments
- Python coding to wrangle and explore big data
- Strong proficiency in visualization tools, such as ggplot2, Plotly, or Tableau to explore big data
- Strong ability to conduct meta-analysis literature reviews
- Experience with cloud computing and big data platforms such as Neo4j, Spark, Big Query, Hadoop, Azure or AWS

Supports productive working relationships

- Nurtures internal and external relationships
- Listens to, understands and recognises the needs of others
- Values individual differences and diversity
- Shares learning and supports others

Communicates with influence

- Communicates clearly
- Listens, understands, and adapts to audiences
- Negotiates confidently

Mandatory qualifications

A degree or diploma of an Australian educational institution, or a comparable overseas qualification, which is appropriate to the duties; OR other comparable qualifications, which are appropriate to the duties.

MERIT POOL

The selection process will establish a merit pool that may be used to fill similar positions within 12 months.

HOW TO APPLY

Applications can be lodged through BOMCareers.

Your application will consist of resume, contact details for two referees and a '800-word pitch' that considers:

- position overview
- job responsibilities
- selection criteria
- relevant sections of the Integrated Leadership System (ILS) and APS work level standards.

The Bureau is an equal opportunities employer. We will support applicants with disability through our RecruitAbility Program and will provide reasonable adjustments such as access, equipment and other practical support at relevant stages of the recruitment process.

We recognise the need for our workforce to reflect the community we serve and provide an inclusive environment that respects and values diversity and is described in our Diversity and Inclusion Statement of Commitment. We strongly encourage qualified applicants from diverse backgrounds to apply.

The Bureau offers flexible working options, reasonable workplace adjustments and an Employee Assistance Program (EAP). Should you have any questions or experience any difficulties with applying online, please contact the Recruitment Team on BOMCareers@bom.gov.au

COVID-19 RESTRICTIONS

We understand there are unique and evolving challenges due to the current COVID-19 pandemic. The Bureau is responsive and making changes to ensure the safety of all candidates and our team.

Under the relevant legislation and guidance of the National Chief Medical Officer:

- Currently all interviews will be held via audio/video conference (across a range of platforms to accommodate personal requirements) unless otherwise advised.
- The successful candidate may be required to carry out the duties remotely for either a period or until otherwise advised.

ADDITIONAL INFORMATION

To find out more about the employment conditions at the Bureau, please refer to the Bureau of Meteorology Enterprise Agreement 2018.