South African Weather Service

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The South African Weather Service (SAWS) is a Section 3(a) public entity under the Ministry of Environment, Forestry and Fisheries (DEFF) and is governed by a Board. The organisation is an authoritative voice for weather and climate-related services in South Africa and is a member of the World Meteorological Organisation (WMO) to fulfil a range of international obligations of the government. SAWS strives to be a Weather and Climate Centre of Excellence, providing innovative solutions to ensure a weather-smart region, sustainable development, and economic growth.

The South African Weather Service is therefore seeking to appoint an efficient and enthusiastic person to undertake the role of:

Scientist: Software Maintenance

Salary: Negotiable

Centre: Research Unit, Centurion

2-Year Fixed Term Contract

(Ref: WS09/042024)

Job Summary

Provide support to the Research Department, ensuring that numerical weather prediction (WNP) models, preprocessing, and postprocessing software needed to run the models, as well as software needed to develop products, are running efficiently. This position will contribute to optimising, updating, and upgrading our existing operational systems, data flows, and programming codes. In addition to contributing to the design and development of cutting-edge software solutions, you will assist in enhancing our operational infrastructure's performance, scalability, and reliability. The scientist will develop protocols to integrate scientific research into operational (R2O) tools within various forecasting systems. Experience in NWP modelling, supercomputing, dashboard development, data management, and monitoring will be highly beneficial to performing these tasks.

Key Performance Areas

The candidate will be required to:

- Collaborate with the team to design, develop, and implement software solutions to support research and development.
- Participate in designing, developing, and implementing software solutions to address complex and time-sensitive challenges of producing numerical weather forecasts and products.
- Conduct research and experimentation to explore new technologies, algorithms, and methodologies relevant to our field.
- Collaborate with the design and implementation of data management systems and software tools for acquiring, storing, processing, and analysing meteorological, environmental, and geographical.
- Develop and maintain software applications, algorithms, and models for computing and visualising the fire danger index, ensuring accuracy, reliability, and scalability.
- Integrate software components with existing systems and data sources, ensuring compatibility and interoperability with relevant meteorological and environmental databases and platforms.
- Employ best practices in software development, version control, and documentation to ensure the reproducibility and traceability of research and analysis activities.
- Collaborate with senior scientists and researchers to understand software requirements, provide technical expertise, and contribute to the optimisation of systems.
- Stay informed about advancements in software development, data management, and scientific computing to identify opportunities to improve process efficiency and effectiveness.
- Write clean, efficient, and maintainable code, adhering to coding standards and best practices.
- Document technical specifications, design decisions, and implementation details for future reference and knowledge sharing.
- Troubleshoot, debug, and resolve software issues and performance bottlenecks in collaboration with the operations team.

Minimum Requirements

Education and Experience

- An appropriate Honours degree (e.g., Atmospheric Science, Meteorology, Environmental Science, Computer Science, Software Engineering, or a related field).
- A minimum of 3 years in Atmospheric Science, Meteorology, Environmental Science, Computer Science, Software Engineering, or a related field
- Strong programming skills in at least one programming language (e.g., Python, Java, C/C++, JavaScript).
- Experience or working knowledge optimising and upgrading existing operational systems, data flows, and codes.
- Familiarity with supercomputing technologies and parallel computing concepts.
- Proficiency in dashboard development using tools like Tableau, Power BI, or Grafana.
- Proficiency in code version control processes and systems (e.g. Git).
- Knowledge of data management principles and practices, including storage, retrieval, and processing.
- Experience with monitoring tools and techniques for tracking system performance and data quality.

Behavioural Competencies

- Excellent written and verbal communication skills, with the ability to work effectively in a collaborative team environment.
- Strong organisational skills and attention to detail, with the ability to contribute to multiple tasks and projects simultaneously.

Please Note:

Register as user on our website using this link: https://www.weathersa.co.za/home/vacancies to apply for the above position and upload your (Comprehensive CV with certified copies of qualifications).

Enquiries for the above-mentioned positions must be directed to: Ms Thembisa Bixa, at

Tel. (012) 367 6208.

Closing Date: 06 May 2024

Preference will be given to People living with disabilities in line with SAWS EE targets. This is an EE position and preference will be given to females, Africans, Indians and Coloureds (AIC). Correspondence will be limited to short listed candidates only. Candidates who have not been contacted within 3 months after the closing date of this advertisement, please accept that your application was unsuccessful. The South African Weather Service is an equal opportunity employer.

Record Reference	HCM-ADVERT-