THE UNIVERSITY OF WESTERN AUSTRALIA

POSITION DESCRIPTION

Position Title	Research Fellow (Data Science)
Classification	Level B
School/Division	Office of the Deputy Vic Chancellor (Research)
Centre/Section	International Centre for Radio Astronomy Research (ICRAR)
Supervisor Title	Senior Principal Research Fellow
Supervisor Position Number	308479
Position Number	FSR

Your work area

ICRAR is a WA State funded high profile equal joint venture established in 2009 between Curtin University and The University of Western Australia (UWA). The Centre's headquarters are located at UWA, with research nodes at both UWA and Curtin. ICRAR is one of the largest astronomy institutions and one of the lead Australian organisations participating in the international Square Kilometre Array (SKA) Project. ICRAR has been further funded from 2019 to 2024 with $25 Million by the WA State Government and equal contribution from the Joint Venture Universities. The Data Intensive Astronomy (DIA) program of ICRAR has secured a contract to participate in the software development of the SKA for the whole construction period until 2028.

We support flexible work arrangements to allow people to align their work duties with their family's requirements and personal wellbeing. On the other side, since the SKA and our other activities are global, we do have to attend meetings after hours and there will be the occasional overseas travel.

Reporting structure

Reports to: Senior Principal Research Fellow

Your role

As the appointee, you will use your skills and experience in advanced data science technologies to extract information from complex and sometimes very big data sets. You will contribute to our work within the SKA project in areas relevant to your data science expertise, but, due to the scale of the SKA, challenging and expanding into new and exciting areas and thus opening new research opportunities and possibilities to develop new skills. You will complement our Data Intensive Astronomy (DIA) team, which includes people with a wide range of expertise in software engineering, computer science, astronomy, algorithmic development and project management. In the data science domain, you will contribute to and lead various existing research projects inside and outside of astronomy and have the opportunity to develop new ones as well. You will also contribute to teaching and supervision of students. The DIA team is also part of the UWA Data Institute (DI) and the UWA International Space Centre (ISC) as well as the ARC Industrial Transformational Research Hub for Transforming energy Infrastructure through Digital Engineering (TIDE) and thus you will also contribute to cross-disciplinary activities in these areas.

Your key responsibilities

Take over and lead existing data science and machine learning projects with internal and external collaborators.

Complement the DIA team with your ML and AI skills and support researchers and other software developers within ICRAR, CSIRO and other partner institutes and companies.

Participate in the SKA development activities during construction in relevant areas and as required.

Participate in translation and impact activities to identify opportunities, apply and promote your and ICRAR's expertise to other fields, either in science, industry or society.

Supervise or co-supervise Masters and PhD students.

Other duties as directed or required.

Your specific work capabilities (selection criteria)

PhD in a scientific field, computer science or software engineering.

You should be able to demonstrate the creation of custom-built models for computer vision and/or time series/sequence datasets using at least one of the popular Deep Learning frameworks (e.g. pytorch, tensorflow, mxnet or similar).

You should also be able to assess, present and visualise model quality and properties using standard Python data science toolkits for data analysis and visualizations e.g., scipy, matplotlib etc.

Expertise in 'traditional' statistical data analysis.

Expertise in programming, Python (preferred), however other languages C/C++/C#, R, are good as well.

Demonstrated ability to work effectively in a team and integrate with globally distributed, diverse scientific or commercial collaborations with a similarly open mindset.

Experience in teaching and student supervision.

Special requirements (selection criteria)

Willingness to travel domestic and international about two to four times a year.

Compliance

Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including:

The University's Code of Conduct hr.uwa.edu.au/policies/policies/conduct/code/conduct

Inclusion and Diversity web.uwa.edu.au/inclusion-diversity

Safety, health and wellbeing safety.uwa.edu.au/