

**Position Description**

**Position Title:** Software Engineer (Web Application)

**Position Classification:** Level 6

**Position Number:** 317588

**Faculty/Office:** Faculty ofEngineering and Mathematical Sciences

**School/Division:** School of Physics, Mathematics and Computing

**Centre/Section:** International Centre for Radio Astronomy Research (ICRAR)

**Supervisor Title:** Senior Principal Research Fellow

**Supervisor Position Number:** 308479

**Your work area**

The International Centre for Radio Astronomy Research (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 the Curtin. ICRAR is one of the lead Australian organisations participating in the international Square Kilometre Array (SKA) Project. ICRAR has been further funded from 2014 to 2019 with $26 Million by the WA State Government and equal contribution from the Joint Venture Universities. ICRAR is one of the largest astronomy organisations in Australia.

ICRAR is involved in a number of large scale astronomical projects, including the Murchison Widefield Array (MWA), the Australian SKA Pathfinder (ASKAP) and, of course, the Square Kilometre Array (SKA). The MWA and ASKAP are already producing significant amounts of data, while the SKA is still in the detailed design phase. Part of the mission of the Data Intensive Astronomy (DIA) Program of ICRAR is the development of software, enabling the scientists to efficiently process and analyse the vast amounts of data coming from these advanced facilities. The software stack covers the whole compute infrastructure from I/O kernel modules and network optimisations to advanced, interactive web applications.

**Reporting Structure**

Reports to: Senior Principal Research Fellow

**Your role**

As the appointee you will operate independently and undertake analyses of requirements, and then design and develop enhancements and extensions to the existing web applications or new web applications. You will be predominantly using Open Source Software and be required to develop and maintain technical documentation and contribute in the preparation of training and support materials for these applications.

**Your key responsibilities**

Analyse requirements, and develop web-design specifications for existing and new web applications

Implement new functionality and upgrade the look-and-feel of existing web applications

Implement new web applications from scratch using modern web applications frameworks

Participate in the design and implementation of APIs to integrate the web applications with existing middleware systems, including data bases, archives and workflow execution systems

Develop and maintain appropriate technical and user documentation for applications developed and supported

Prepare training and support materials

Other duties as directed

**Your specific work capabilities (selection criteria)**

Degree or postgraduate qualification in a relevant area or substantial recent experience developing complex web applications

Substantial relevant experience in applying web programming principles to the analysis and development of web-based business solutions

Considerable experience developing with the complete web application stack, including AJAX, JavaScript and JavaScript libraries, JSON, CSS, web sockets, HTML, HTML5, Python and SQL/noSQL in a Linux/Unix environment.

Knowledge or expertise of/with other programming languages suitable or optimised for web programming would be an asset.

Experience with operational web application deployment scenarios, including security and load balancing/high availability considerations

Highly developed written and verbal communication skills

Highly developed organisational skills and ability to prioritise and schedule work.

Interest in astronomy and/or scientific data analytics in general would be an asset

Ability to work independently, show initiative and work productively as part of a team

Experience in the preparation of software documentation in particular for web applications

Experience integrating applications with web architectures through RESTful services

In-depth experience with one or more major web development frameworks (any language) or web based content management systems

**Special Requirements (selection criteria)**

There are no special requirements

**Compliance**

Workplace Health and Safety

All supervising staff are required to undertake effective measures to ensure compliance with the Occupational Safety and Health Act 1984 and related University requirements (including Safety, Health and Wellbeing Objectives and Targets).

All staff must comply with requirements of the Occupational Safety and Health Act and all reasonable directives given in relation to health and safety at work, to ensure compliance with University and Legislative health and safety requirements.

Details of the safety obligations can be accessed at <http://www.safety.uwa.edu.au>

Inclusion & Diversity

All staff members are required to comply with the University’s Code of Ethics, Code of Conduct and Inclusion and Diversity principles. Details of the University policies on these can be accessed at <http://www.hr.uwa.edu.au/policies/policies/conduct/code>, <http://www.web.uwa.edu.au/inclusion-diversity>.