

**Position Title:** Software Engineer

**Position Classification:** HEE Level 7

**Position Number:** ………………

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

**School/Division:**

**Centre/Section:** Australian Centre for Geomechanics

**Supervisor Title:** Senior Research Fellow

**Supervisor Position Number:** 305933

**Your work area**

The Australian Centre for Geomechanics (ACG) is a multi-disciplinary joint venture and UWA Research Centre which provides professional education, training, research and technology transfer services to the mining sector. The ACG works in the disciplines of underground, open pit and environmental mining geomechanics. The overall aim of the Centre is to improve mine safety and productivity.

The Centre’s research team conducts projects in the areas of underground, open pit and environmental geomechanics, and provides research positions for UWA Resource Engineering PhD and Masters students. The translation of research outcomes and technology transfer to industry forms part of the Centre’s mandate and is an important focus of the Centre. As a result, the Centre has a very good track record of transferring technology to the resources industry.

The software *mXrap* was developed over many years during the course of several research projects and now forms the cornerstone of the research translation and technology transfer strategy.

**Reporting Structure**

*Reports to:* Senior Research Fellow, *Position No. 305933.*

**Your role**

Together with research staff, you will develop algorithms for the solution of engineering problems in the field of mining geomechanics. As part of the mXrap development team you will develop and maintain mXrap apps and will collaborate on the development and maintenance of mXrap.

This includes:

1. The development of plug-ins for the mXrap in C++
2. Develop and perform quality assurance and quality control audits of apps development within the mXrap platform under the mXrap development project.
3. Collaborate with and support researchers in the development of mXrap apps.
4. Provide technical software support.

You will be required to develop and deliver training, and produce training materials.

**Key responsibilities**

Collaboration on the development and maintenance of mXrap and mXsync.

Collaboration on the development and maintenance of mXrap apps.

Management and development of internal java script libraries. Quality control and quality assurance on other collaborator’s contribution to the libraries.

Advise on and consult with research staff and students regarding software development/coding required as part of their research and the transfer of that research into mXrap apps. Support research staff and students with coding of mXrap apps or necessary library components.

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

Degree in computer science / software engineering.

Highly developed skills in code optimisation and algorithms.

Comfortable with engineering mathematics and –statistics, as well as vector algebra.

Lateral thinker able to develop solutions to engineering problems.

Experience in C++ and the ability to learn new language when required.

Experience in GIT, JavaScript, HTML, CSS, SQL, OpenGL, GLSL.

Experience in QT, Boost, CMake is desirable.

Highly developed Windows and Linux platform skills.

Highly developed written and verbal communication skills.

Strong interpersonal and consultation skills and a proven ability to work in a team environment as well as independently.

**Special Requirements**

Occasional weekend work.

Travel to mine sites.

**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>

**Equity and Diversity**

All staff members are required to comply with the University’s Code of Ethics and Code of Conduct and Equity and Diversity principles. Details of the University policies on these can be accessed at <http://www.hr.uwa.edu.au/publications/code_of_ethics>, <http://www.equity.uwa.edu.au>