# Position Description

## Research Projects – CSOF3

The following information is for applicants

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| Advertised Job Title**:** | Digital AR/VR Graphic Content Developer |
| Job Reference: | 59222 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Percentage of Client Focus - Internal: | 70% |
| Percentage of Client Focus - External: | 30% |
| Reports to the: | Team Leader |
| Number of Direct Reports: | 0 |
| Name and Contact Details For Applicant Enquiries | Mr Craig James  Email: [craig.a.james@csiro.au](mailto:craig.a.james@csiro.au)  Phone: **07 3327 4788** |
| Contact Details For Applying | Call 1300 984 220 or email [careers.online@csiro.au](mailto:careers.online@csiro.au). |
| How to Apply: | Please apply online at [jobs.csiro.au](https://jobs.csiro.au/) and enter the requisition number**.** Internal applicants please apply via ‘Jobs Central’ through the ‘People Hub’ icon |

## Role Overview:

Research Projects staff in CSIRO collaborates in scientific and technological activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work.

The CSIRO Mining and Processing Technologies research group develops world-leading technology that is used by both the domestic and global coal mining industry. The group has a world-class track record in developing advanced sensing, processing, automation, and visualisation solutions for industry to provide safe, green and productive mining processes.

The Group has a need to deepen the impact of science outreach into industry through the use of digital model development. A new role has been created to assist the team developing Virtual Reality (VR) and Augmented Reality (AR) application that better integrate people with autonomous systems as well as deliver compelling experiences to stakeholders at internal and external forums.

The role of the Digital AR/VR Graphic Content Developer is to generate mixed reality experiences and presentations, capture/create/modify 2D and 3D digital content, assemble/modify and construct interactive applications, prototype new visualisation concepts, interact with 4D volumetric systems, generate digital twins of real-world processes, and participate in field activities to collect data for reality-capture.

## Duties and Key Result Areas:

* Work with teams to storyboard recorded and interactive content for showcasing key aspects of research.
* Modify existing 2D and 3D content to support recorded and interactive stories.
* Develop new 2D and 3D content from scratch using conceptual descriptions or engineering drawings to support recorded and interactive stories.
* Collaborate on developing experiences in 2D, 3D and immersive 3D to present recorded and interactive stories.
* Respond courteously and efficiently to client requests, maintaining clear communication regarding mutual expectations and monitoring client satisfaction.
* Undertake and complete tasks under technical direction, working with discretion to decide on the timing of operations within the work team’s plan and planning ahead to meet experiment and/or project demands.
* Under technical direction undertake experiments, laboratory analyses or technology development activities (some non-routine) using a range of techniques, often working on a number of parallel and competing tasks.
* Oversee the activities of less experienced staff and provide guidance on experimental/ technological techniques and protocols.
* Design new processes or apparatus by adapting existing techniques and components to meet special circumstances or undertake modifications to methods requiring some innovation.
* Communicate openly, effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work collaboratively as part of a multi-disciplinary, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## Competencies:

1. **Teamwork and Collaboration: Proactively seeks and considers the ideas and opinions of others from within and outside the team to help form decisions, plans or actions.**
2. **Influence and Communication: Puts forward ideas by presenting factual information supported by data, definitions, examples, illustrations or other aids, which will assist in conveying meaning.**
3. **Resource Management/Leadership: Provides instruction and assists other staff to complete allocated tasks and activities.**
4. **Judgement and Problem Solving:** Identifies and considers the implications of a range of available alternatives in order to select the most appropriate response to problems of a familiar or recurring nature.
5. **Independence: Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).**
6. **Adaptability:** Willingness to change ideas or perceptions based on new information, contrary evidence or other people's points of view. Prepared to try out different approaches.

## Selection Criteria:

*Under CSIRO policy only those who meet all selection criteria can be appointed.*

1. Relevant bachelor’s degree or relevant work experience such as a Bachelor of Creative and Interactive Media or Bachelor of Design
2. Demonstrated proficiency in 3D modelling software such as Blender / Max or Maya
3. Ability to construct 3D models from 2D technical drawings
4. Experience in UV-mapping models
5. Proficiency with Windows development environment
6. Demonstrated ability to assume responsibility for assigned work tasks

## Desirable Criteria:

1. Experience using PBR modelling / rendering techniques
2. Experience with reality capture datasets such as 3D point clouds
3. Working knowledge of Substance Painter and Designer toolsets
4. Experience in constructing applications in Unity3D or Unreal
5. Capability to program scripted sequences in Unity3D C# or Unrealscript
6. Demonstrated proficiency with video editing tools such as Adobe Premiere
7. Working knowledge of 2D, layered-painting applications such as Adobe Photoshop
8. Familiarity with keyframed animation tools and processes
9. Familiarity with designing experiences for AR/VR and other mixed reality technologies
10. Experience with HTML5 web technologies such as XML, CSS, JavaScript, Nodejs

## Special Requirements:

To be successful for this position, the applicant must be willing and able to:

* Undertake interstate travel for activities such as training and conference presentation;
* Undertake field work for industry research projects which may include working in underground environments involving coal and/or hard rock mines in remote locations.
* Undertake work out of normal workday hours, including after-hours and weekends.

## About CSIRO:

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Find out more about CSIRO [Energy](https://www.csiro.au/en/Research/EF)