Allan James

0416 396 322

1 Barber Road, Ferny Hills QLD, 4055

allan@formationmedia.net

I wish to apply my broad experience and proven technical and creative skills in a dynamic work environment that challenges me to continue learning in new and interesting ways.

Largely self-taught, I am a fast and enthusiastic learner. My interests lie around new and evolving technologies, VR/AR, computer graphics and human-computer interaction, and information discovery using a wide range of tools, including game engines and libraries, interaction devices, spatial data, and 2D/3D data visualisation. I'm looking towards exploring where these technologies can take us, and having fun doing it.

Experience Brief

- Proven development experience using a broad array of languages, including C#, C/C++, Java, JavaScript, HTML, CSS
- Code, databases, and full system design including web and client/server systems
- Experience developing for VR (GearVR, Google Cardboard, Oculus Rift, HTC Vive) and AR (Hololens , Meta)
- Long-term VR/AR interest and active driver and motivator for applying the technologies to commercial and research applications. Original Oculus Rift backer
- Interaction devices including Leap Motion, large multi-touch screens, Razer Hydra, Oblong g-speak
- Practical experience using libraries, tools, development environments and database technologies including Unity, VTK, Visual Studio, .NET, Cesium, VRTK, OSG, CMAKE, MySQL, MongoDB, Git, SVN, Perforce, Apache, Splunk, JIRA
- Experience in software environments and data formats, across 3D modelling, LiDAR, GIS and geospatial, image/video/audio editing, source control, and database design
- Experience developing distributed interactive environments for PC clusters
- Project management and team leadership. Design patterns, hardware, Windows, Linux.

Recent Projects / Career Achievements

- Lead developer on a citizen science platform incorporating VR, web, and statistical modelling. Including a Reef VR elicitation tool for GearVR. Funded by CRC for Spatial Information and Queensland Government Department of Natural Resources and Mines (DNRM) ◦ http://www.viser.net.au/projects/monitoring-through-many-eyes

- Developed VR prototype using Oculus Rift and Razer Hydra controllers that was featured on the ABC 7:30 program ◦ https://youtu.be/hhqSs1eTgrU?t=110 (from 1:50)

- A lead developer on a 3D globe and framework for presenting stories along with geospatial data and 2D/3D data visualisation. Collaboration with Queensland Government for G20 Brisbane. Used by VIPs including Indonesian President Joko Widodo, Indian PM Narendra Modi, King Willem-Alexander and Queen Máxima of the Netherlands, and PM Malcolm Turnbull ◦ http://www.viser.net.au/projects/the-cube-globe ◦ https://cesiumjs.org/demos/CubeGlobe.html

- Equipment design for a multi-disciplinary research trip to the Amazon rainforest, focused on the elicitation of information from local people about Jaguar habitats, using 360 footage in VR. Equipment included various 360 cameras, GearVR and mobiles, ambisonic recorders, and stabiliser rigs to film VR content ◦ http://www.sbs.com.au/topics/science/nature/article/2016/09/12/unexpected-benefits-virtual-reality-can-help-conservation-amazon-and-beyond ◦ http://www.theaustralian.com.au/special-features/amazon-jaguars-where-the-bloody-hell-are-they/news-story/6e8a1f018b978a0f6afe40882a509d99

- A lead developer on a project to implement tools and services to capture, process, and visualise the data produced by smart buildings (C#, ASP.NET Web API, Splunk) ◦ http://www.viser.net.au/projects/sensing-sec

- Projection mapping installation on Queensland Old Government House, integrating Unity with live floor tracking lasers for the Liberact 2016 conference ◦ http://www.viser.net.au/projects/liberact-iv

- Lead design and development of a wide range of software. Some examples:

    - Groundwater Visualisation System (GVS) software for 3D visualisation of groundwater and geological systems. Funding from across industry, state government, local councils and community groups (C++, VTK, Qt, CMake, support for Linux, distributed rendering, Leap Motion, Oblong g-speak http://www.oblong.com, and remote interactive rendering over WebSocket) ◦ https://vimeo.com/158870480

    - A remote 3D visualisation engine in collaboration with Federation University Centre for eResearch and Digital Innovation, to compliment the Visualising Victoria's Groundwater site (C++, VTK, JavaScript, HTML, CSS, WebSocket) ◦ http://www.vvg.org.au/cb_pages/news/3Davailable.php

    - Distributed interface for running Microsoft's World Wide Telescope on The Cube at QUT http://www.thecube.qut.edu.au (C#, JavaScript, HTML, CSS)

    - Elicitator: a software tool for expert elicitation, integrating innovative Bayesian statistical techniques (Java, MySQL, R) ◦ http://www.sciencedirect.com/science/article/pii/S1364815209001704

    - A tool for creation and management of ecological data using EML. Funded by the Australian National Data Service (Java, Eclipse RCP, XML)

- Contributed to writing 2 published book chapters, 6 journal papers (one as first author), and 16 conference papers (4 as first author)

Employment

Senior Visualisation and Software Development Officer
Visualisation and eResearch (ViseR) ◦ http://viser.net.au
Institute for Future Environments (IFE), Queensland University of Technology (QUT)
April 2013 – Current

- Development of VR/AR, data visualisation and interaction in 3D environments
- Contribution to reports, proposals, grant applications, and conference/white papers
- Project leadership, tours of visualisation facilities and software demos
- Unity, C#, C++, VTK, HTML, JavaScript, CSS, GIS, GDAL and spatial data, Server (.NET, PHP), DB (MySQL, SQLite, Mongo, JSON), Adobe Photoshop/Premiere

Research IT Support Specialist
IFE, Biogeosciences, High Performance Computing and Research Support (HPC), QUT
January 2008 – April 2013

- Technical support for researchers including development of specialised software with a focus on interactive 3D data visualisation
- C++, C#, VTK, HTML, JavaScript, CSS, Java, GIS, GDAL and spatial data, Server (PHP, JSP), DB (MySQL, SQLite, JSON), Adobe Photoshop/Premiere

Course Tutor in Visualisation and Data Analysis
Mathematical Sciences, QUT
July 2009 – December 2009

- C++, VTK, OpenDX, TCL/TK

Computing Support Specialist and Research Assistant
Mathematical Sciences and High Performance Computing and Research Support, QUT
January 2006 – December 2007

- Development of specialised software for researchers with a focus on scientific data visualisation

Multimedia Tutor
Brisbane North Point Institute of TAFE
January 2003 – December 2006

- JavaScript, XML, X/HTML, CSS, Flash, ActionScript, ColdFusion, MS Access, MySQL

Flash ActionScript Developer
Southbank Institute of TAFE - Online Learning Centre
June 2005 – December 2005

- Development of online literacy courses, and testing and maintenance of existing online courses

Formal Education

Certificate IV in Project Management [2009]
Australian Institute of Management

Bachelor of Information Technology - Software Engineering [2004 – 2007]
Queensland University of Technology

Certificate IV in Assessment and Workplace Training [2005]
Martin College Brisbane

Diploma in Internet Technologies and Multimedia [2001 – 2002]
Brisbane North Institute of TAFE

Diploma of Information Technology - Applications Programming and Databases [1998 – 1999]
Yeronga Institute of TAFE

Interests

I have interests in coding, VR/AR, science, technology, music, drumming, gaming, reading, camping and hiking/bush-walking, garden and bonsai

Publications and Conference Items

Book Chapters

Low Choy, Samantha, **James, Allan**, Murray, Justine, & Mengersen, Kerrie (2011) Elicitator: a user-friendly, interactive tool to support scenario-based elicitation of expert knowledge. In Ajith, H., Perera, C., Drew, A., & Johnson, C.J. (Eds.) Expert Knowledge and Its Application in Landscape Ecology. Springer, New York, pp. 39-67.

Low Choy, Samantha, Murray, Justine, **James, Allan**, & Mengersen, Kerrie L. (2010) Indirect elicitation from ecological experts: from methods and software to habitat modelling and rock-wallabies. In O'Hagan, Anthony & West, Mike (Eds.) The Oxford Handbook Of Applied Bayesian Analysis. Oxford University Press, Oxford, pp. 511-544.

Journal Articles

Peterson, E.E, Clifford, S, Ye, N, Kim, J, Bednarz, T, Brown, R, **James, A**, Vercelloni, J, Pearse, A.R, Davis, J, & Mengersen, K. (2016) Modelling imperfect presence data obtained by citizen science. Under review. Environmetrics 00, 2-36

Cox, M.E, **James, A**, Hawke, A & Raiber, M (2013) Groundwater Visualisation System (GVS): a software framework for integrated display and interrogation of conceptual hydrogeological models, data and time-series animation. Journal of Hydrology, 491, pp. 56–72

Taulis, Mauricio, Cox, Malcolm, Todd, Andrew, Hawke, Amy, Raiber, Matthias, & **James, Allan** (2012) Bribie Island groundwater resources: challenges in development of conceptual and numerical models. Proceedings of the Royal Society of Queensland, 117, pp. 101-117

Cox, Malcolm, **James, Allan**, Hawke, Amy, Specht, Alison, Raiber, Matthias, & Taulis, Mauricio (2011) North Stradbroke Island 3D Hydrology: Surface water features, settings and groundwater links. Proceedings of the Royal Society of Queensland, 117, pp. 47-63.

Cox, Malcolm, **James, Allan**, Raiber, Matthias, Taulis, Mauricio, & Hawke, Amy (2011) North Stradbroke Island 3D Hydrology: Groundwater systems overview. Proceedings of the Royal Society of Queensland, 117, pp. 65-83.

James, Allan, Low Choy, Samantha, & Mengersen, Kerrie L. (2010) Elicitator: an expert elicitation tool for regression in ecology. Environmental Modelling & Software, 25(1), pp. 129-145.

Conference Papers

Bednarz, Tomasz, Kim, June, Brown, Ross, **James, Allan**, Burrage, Kevin, Clifford, Sam, Davis, Jacqueline, Mengersen, Kerrie, Peterson, Erin, Psaltis, Steven, & Vercelloni, Julie (2016) Virtual reality for conservation. In Proceedings of the 21st International Conference on Web3D Technology, ACM, Anaheim, USA, pp. 177-178.

Raiber, Matthias, Cox, Malcolm, Taulis, Mauricio, Hawke, Amy, & **James, Allan** (2011) Assessment of flood-related recharge to alluvial aquifers of an irrigated catchment following extended drought conditions using 3D visualisation and environmental tracers, Lockyer Valley, southeast Queensland, Australia. In 50th Jubilee New Zealand Hydrological Society Conference 2011 - Learning from the Past-Creating the Future, New Zealand Hydrological Society, Wellington, N. Z, p. 139.

Raiber, Matthias, Cox, Malcolm, Hawke, Amy, & **James, Allan** (2011) Assessment of pre- and post-flood groundwater recharge via 3D visualisation, Lockyer Valley, southeast Queensland. In 11th Australasian Environmental Isotope Conference and 4th Australasian Hydrogeology, 12th - 14th July 2011, Rydges Tradewinds, Cairns, QLD. (Unpublished)

Cox, Malcolm, Raiber, Matthias, Hawke, Amy, & **James, Allan** (2011) Use of 3D visualisation to enhance groundwater stable isotope data and its interpretation, Lockyer Valley, southeast Queensland. In 11th Australasian Environmental Isotope Conference and 4th Australasian Hydrogeology, 12th - 14th July 2011, Rydges Tradewinds, Cairns, QLD. (Unpublished)

Young, Joseph A., Roe, Paul, Graham, Philip W., Grace, Peter, Zhang, Danqing, De Vine, Lance, et al. (2011) Extensible software for research data capture. In eResearch Australasia 2011: eXtreme eResearch, 6-11 November 2011, Sebel & Citigate Albert Park, Melbourne, VIC (Unpublished)

James, Allan, Cox, Malcolm, Hawke, Amy, & Young, Joseph A. (2010) A 3D visualisation model applied to a thick, multi-layered alluvial groundwater system under stress: Condamine Valley, QLD. In National Groundwater Conference, 31 October - 4 November 2010, National Convention Centre, Canberra. (Unpublished)

Todd, Andrew, Cox, Malcolm, & **James, Allan** (2010) Community engagement and groundwater investigation in a rural/peri urban basaltic aquifer system, Tamborine Mountain, South East Queensland. In National Groundwater Conference 2010, 31st Oct - 4th Nov 2010, National Convention Centre, Canberra. (Unpublished)

James, Allan, Hawke, Amy, Cox, Malcolm, & Young, Joseph A. (2010) GVS: A flexible, low-end, 3D visualisation framework for enhancing conceptual groundwater models for community, management and simulations. In National Groundwater Conference 2010, 31 October - 4 November 2010, National Convention Centre, Canberra. (Unpublished)

Cox, Malcolm, Hawke, Amy, **James, Allan**, & Young, Joseph A. (2010) Visualisation modelling in 3D of an alluvial aquifer system at a valley-wide scale to understand groundwater status: Lockyer, QLD. In National Groundwater Conference 2010, 31st Oct - 4th Nov, National Convention Centre, Canberra. (Unpublished)

James, Allan & Todd, Andrew (2010) 3D visualisation of groundwater/surface water systems as a planning and communication tool. In 2nd National Local Government Environment Conference, 10-12 November 2010, Gold Coast International Hotel. (Unpublished)

Cox, Malcolm E., Hawke, Amy, **James, Allan**, & Wolf, L. (2010) Understanding the Aquifer: 3D Visualisation and Groundwater Time-Series Animation in Lockyer Valley. In Science Forum: Building Linkages, Collaboration and Science Quality which is being run by Urban Water Security Research Alliance, 28th - 29th September, Brisbane. (Unpublished)

James, Allan, Hawke, Amy, Cox, Malcolm, Young, Joseph A., & Todd, Andrew (2009) Groundwater Visualisation System (GVS): a software framework for developing low-end, scalable and robust software for 3D visualisation and animation of groundwater conceptual models. In First Australian 3D Hydrogeology Workshop, August 31st & September 1st 2009, Canberra. (Unpublished)

Low Choy, Samantha, **James, Allan**, & Mengersen, Kerrie (2009) Expert elicitation and its interface with technology: a review with a view to designing Elicitator. In Expert elicitation and its interface with technology: a review with a view to designing Elicitator, Modelling and Simulation Society of Australia and New Zealand Inc., Cairns, Queensland.

Hawke, Amy, **James, Allan**, Cox, Malcolm, & Young, Joseph A. (2009) Approach to developing a 3D conceptual hydrogeology model, in a system with multiple bore logs, Howard East, Darwin, using in-house software (GVS). In First Australian 3D Hydrogeology Workshop, August 31st & September 1st 2009, Canberra. (Unpublished)

Todd, Andrew, Cox, Malcolm, & **James, Allan** (2009) Community engagement for development and application of 3D visualisation models: a two edged. In First Australian 3D Hydrogeology Workshop, August 31st & September 1st 2009, Canberra. (Unpublished)

Cox, Malcolm, Young, Joseph A., **James, Allan**, Hawke, Amy, & Todd, Andrew (2009) Role of 3D visual conceptualisation of groundwater system models as a management support tool. In First Australian 3D Hydrogeology Workshop, 31 August & 1 September 2009, Canberra. (Unpublished)