Michael Marner, PhD

Curriculum Vitae

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Education

2008–2013 **Doctor of Philosophy**.
University of South Australia
Thesis title: *Physical-Virtual Tools for Interactive Spatial Augmented Reality*
Supervisor: Professor Bruce H. Thomas
Associate Supervisor: Dr. Christian Sandor
Degree conferred August 15 2013

2003–2006 **Bachelor of Information Technology (Computing & Multimedia)**.
University of South Australia
Graduated with first class honours, GPA 6.3/7
Honours Supervisor: Dr. Wayne Piekarski

Professional Experience

2012–2013 **Research Fellow**, *University of South Australia*, Mawson Lakes.
Conducting research into interactive Spatial Augmented Reality environments.
Detailed achievements:
- Development of a reusable, modular software framework for building spatial augmented reality systems
- Investigating new interaction techniques for spatial augmented reality
- Supervising two honours projects

2008–2012 **Instructor**, *Pearson Education*.
Production of programming demonstration videos for the following Pearson publications:
- Eighty videos for *Introduction to Java Programming, 8th Edition* by Y. Daniel Liang.
- Twenty videos for *Introduction to Java Programming, 9th Edition* by Y. Daniel Liang.
- Nine videos for *Introduction to Programming with C++, 3rd Edition* by Y. Daniel Liang.

2012 **Augmented Reality Software Developer**, *Country Arts SA*, Goolwa.
Production of interactive components for *If There Was A Colour Darker Than Black I'd Wear It*.
Detailed achievements:
- Interactive projection system allowing audience members to 'tag' buildings via SMS
- Use projectors to give the illusion of damaging a car then lighting it on fire

2011 **Video System Developer**, *The Border Project*, Adelaide.
Development of the interactive video projection system used in the production *Half Real*.
Detailed achievements:
- Development of an interactive projection system
- Actor tracking using the Microsoft Kinect
- Modelled the stage as a 3D augmented reality environment
- Show successfully toured regional South Australia and completed a 3 week season during the Melbourne Festival

2005–2011 **Casual Academic**, *University of South Australia*, Mawson Lakes.
Conducting lectures, tutorials, and computer practicals.
Detailed achievements:
- Teaching classes for the following subjects:
  - Data Structures & Advanced Data Structures
  - Computer Graphics
  - Operating Systems
  - Foundations of Computing
  - Java Programming
- Creating student assignments
- Marking student assignments and exam papers

2010 **Augmented Reality Software Developer**, *Country Arts SA*, Mount Gambier.
Development interactive augmented reality components for the creative development of *If There Was A Colour Darker Than Black I'd Wear It*.
Detailed achievements:
- Development of augmented reality demonstrations that react to audience movements
- Work with other creatives to successfully showcase the production concept

2006–2008 **Web Developer**, *Loud Whisper Design*, Adelaide.
Responsible for all web development.
Detailed achievements:
- Working with designers to implement client websites
- Develop a customised content management system for Loud Whisper clients

Honours and Awards

2013 If There Was A Colour Darker Than Black I'd Wear It - Ruby Award for Innovation

2011 ITEE Division Research Day - Best Student Presentation

2008 Australian Federal Government Postgraduate Research Award (APA)

2006 University Merit Awards

2005 Chancellor's Letters of Commendation
Dean's Merit List

2004 Dean's Merit List

2003 Undergraduate Scholarship for entry into a degree Program in Computer & Information Science
Chancellor's Letters of Commendation
Dean's Merit List

Research Publications

Smith, R. T., G. Webber, M. Sugimoto, M. R. Marner, and B. H. Thomas (2013b). "Automatic Sub-pixel Projector Calibration Supporting Improved Calibration for Projected Environments". In: *ITE Transactions on Media Technology and Applications*.

Maas, E. T., M. R. Marner, R. T. Smith, and B. H. Thomas (2012). "Supporting Freeform Modelling in Spatial Augmented Reality Environments with a New Deformable Material". In: *Proceedings of the 13th Australasian User Interface Conference*. Melbourne, Victoria, Australia.

Marner, M. R., S. Haren, M. Gardiner, and B. H. Thomas (2012). "Exploring Interactivity and Augmented Reality in Theater: A Case Study of Half Real". In: *Proceedings of the International Symposium on Mixed and Augmented Reality*. Atlanta, Georgia, United States.

Thomas, B. H., G. S. Von Itzstein, R. Vernik, S. R. Porter, M. R. Marner, R. T. Smith, M. Broecker, and B. Close (2011). "Spatial Augmented Reality Support for Design of Complex Physical Environments". In: *Workshop on Interdisciplinary Approaches to Pervasive Computing Design*.

Marner, M. R. and B. H. Thomas (2010a). "Augmented Foam Sculpting for Capturing 3D Models". In: *IEEE Symposium on 3D User Interfaces*. Waltham Massachusetts, USA.

Marner, M. R. and B. H. Thomas (2010b). "Tool Virtualization and Spatial Augmented Reality". In: *Proceedings of the 20th International Conference on Artificial Reality and Telexistence*. Adelaide, South Australia.

Porter, S. R., M. R. Marner, R. T. Smith, J. E. Zucco, B. H. Thomas, and P. Schumacher (2010). "Spatial Augmented Reality for Interactive Rapid Prototyping". In: *Proceedings of the 20th International Conference on Artificial Reality and Telexistence*. Adelaide, South Australia.

Sandor, C., A. Cunningham, U. Eck, D. Urquhart, G. Jarvis, A. Dey, S. Barbier, M. R. Marner, and S. Rhee (2010). "Egocentric Space-Distorting Visualizations for Rapid Environment Exploration in Mobile Mixed Reality". In: *IEEE Symposium on Virtual Reality*. Waltham Massachusetts, USA.

Porter, S., M. R. Marner, U. Eck, C. Sandor, and B. H. Thomas (2009). "Rundle Lantern in Miniature: Simulating Large Scale Non-Planar Displays". In: *Proceedings of the International Conference on Advances in Computer Entertainment Technology*. Athens, Greece.

Patents

Smith, R. T., G. Webber, M. Sugimoto, M. R. Marner, and B. H. Thomas (2013a). "Method and Apparatus for Calibration of Multiple Projector Systems". Provisional Patent 2013900409.

Marner, M. R., M. Broecker, B. Close, and B. Thomas (2012). "Spatial augmented reality (SAR) application development system". Provisional Patent 2012903729.

Book Chapters

Marner, M. R., R. T. Smith, S. R. Porter, M. Broecker, B. Close, and B. H. Thomas (2011). "Large Scale Spatial Augmented Reality for Design and Prototyping". In: *Handbook of Augmented Reality*. Springer-Verlag.

Conference Posters

Marner, M. R. and B. H. Thomas (2013). "Spatial Augmented Reality User Interface Techniques for Room Size Modeling Tasks". In: *Poster Sessions: Proceedings of the IEEE Symposium on 3D User Interfaces*. Orlando, FL, USA.

Maas, E., M. R. Marner, R. T. Smith, and B. H. Thomas (2011). "Quimo: A Deformable Material to Support Freeform Modeling in Spatial Augmented Reality Environments". In: *Poster Sessions: Proceedings of the IEEE Symposium on 3D User Interfaces*. Singapore.

Smith, R. T., M. R. Marner, and B. Thomas (2011). "Adaptive Color Marker for SAR Environments". In: *Poster Sessions: Proceedings of the IEEE Symposium on 3D User Interfaces*. Singapore.

Porter, S. R., M. R. Marner, R. T. Smith, J. E. Zucco, and B. H. Thomas (2010). "Validating Spatial Augmented Reality for Interactive Rapid Prototyping". In: *proceedings of the 9th IEEE International Symposium on Mixed and Augmented Reality*. Seoul, Korea.

Marner, M. R., B. H. Thomas, and C. Sandor (2009). "Physical-Virtual Tools for Spatial Augmented Reality User Interfaces". In: *Proceedings of the International Symposium on Mixed and Augmented Reality*. Orlando, FL, USA.

Sandor, C., A. Cunningham, U. Eck, D. Urquhart, G. Jarvis, A. Dey, S. Barbier, M. R. Marner, and S. Rhee (2009). "Egocentric Space-Distorting Visualizations for Rapid Environment Exploration in Mobile Mixed Reality". In: *International Symposium on Mixed and Augmented Reality*. Orlando, FL, USA.

Skill Summary

Research	Ability to develop and pursue research questions in human-computer interaction. Experience in designing, conducting and analysing user evaluations.
Programming	Strong working knowledge of C++, Java, and PHP programming languages, and OpenGL, SDL, QT, libAVCodec, and other software libraries.
Software Development	Highly proficient with Git, Subversion, and CVS version control systems. Experienced at working with the GNU Autotools build tools. I code in Vim, but I'm not elitist.
CAD	Strong working knowledge of Autodesk Maya, familiar with Autodesk Inventor and Dimension uPrint 3D printers.

General	Proven public speaking, interpersonal, and communication skills Excellent problem solving skills Enthusiastic and hard working Fast learner

Personal Interests

Music	Play drums, piano, and guitar
Education	Producing IT oriented video tutorials on topics such as the Java programming language and the Git version control system. These video tutorials have been watched over 180,000 times
Volunteering	Secretary of the Progressive Music Broadcasting Association, operators of Three D Radio 93.7FM, community radio station in Adelaide, SA. On-air announcer.
Sport	Downhill mountainbiking

Referees

Prof. Bruce Thomas Ph.D.

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