

Curriculum Vitae

DR. ROLAND GOECKE

Canberra, Australia
Phone: +61-2-6201 2114(w)
E-Mail: Roland.Goecke@icce.org

EDUCATION

- 1998-2002 Ph.D. in Computer Science & Technology, Australian National University, Canberra, Australia (awarded July 2004), under the supervision of Dr Bruce Millar, Prof Alex Zelinsky and Dr Jordi Robert-Ribes
Developed a system to study the statistical relationship between auditory and visual speech parameters on the example of Australian English
Designed and created first comprehensive audio-visual speech data corpus for Australian English and statistically analysed the corpus
Thesis "A Stereo Vision Lip Tracking Algorithm and Subsequent Statistical Analyses of the Audio-Video Correlation in Australian English", examiners Dr Jean-Luc Schwartz, IDP-INRIA, Grenoble, France and Prof Robyn Owens, University of Western Australia, Perth, Australia
ASSTA PhD of the Year Award 2004
- 1992-1998 M.Sc. (with distinction) in Computer Science (German degree *Diplom-Informatiker*), University of Rostock, Germany
Specialised in computer graphics, computer vision and mathematical optimisation methods
Thesis "Fast Volume Rendering Methods for 2D/3D Registration of Medical Images", examiners Prof Heidrun Schumann, University of Rostock, and Dr Juergen Weese, Philips Research Laboratories Hamburg
- 1994-1995 Diploma (with distinction) in Computer Science, University of Kent at Canterbury, UK
Self-organised overseas study experience
- 1987-1991 Special School for Mathematics, Sciences and Technology, Rostock, Germany

PROFESSIONAL EXPERIENCE

Academic

- 2010-present Assistant Professor, Faculty of Information Sciences and Engineering, University of Canberra, Canberra, Australia
Unit convener for Introduction to Information Technology (4478), Introduction to Software Technology G (6694), and Information Technology for the Workplace (6587)
Research in affective computing, HCI, computer vision, pattern recognition, image processing, biometrics, multimodal signal processing

- 2009-2010 Senior Lecturer, Faculty of Information Sciences and Engineering, University of Canberra, Canberra, Australia
Unit convener for Introduction to Information Technology (4478) and Introduction to Software Technology G (6694)
Research in affective computing, HCI, computer vision, pattern recognition, image processing, biometrics
- 2008-2010 Research Fellow, Faculty of Information Sciences and Engineering, University of Canberra, Canberra, Australia
Research into multimodal input for the Thinking Head project
- 2007-2008 Senior Research Scientist, Seeing Machines, Canberra, Australia
Working on computer vision algorithms, in particular for face and facial feature tracking applications
Strategic decisions for future R&D and product development
- 2004-present Research fellow (adjunct), Department of Information Engineering, Research School of Information Sciences and Engineering, College of Engineering and Computer Science, Australian National University, Canberra, Australia
Supervision of PhD and Masters students as well as summer scholars
- 2004-2007 Researcher, National ICT Australia, Autonomous System and Sensing Technologies, Canberra, Australia
Working on computer vision and multimodal sensing systems
- 2002-2004 Research fellow, Fraunhofer Institute for Computer Graphics, Dept. Human-Centered Interaction Technologies, Rostock, Germany
Chief investigator of 2 projects in image processing (historic music scores) and human-computer interaction (monitoring of facial expressions)
Supervision of undergraduate students' projects
- 2001 Research internship, Audio Visual Speech Technologies Group, IBM T.J. Watson Research Center, Yorktown Heights, USA
Researched methods for acoustic noise reduction for automatic speech recognition on the basis of audio-visual speech information
- 1998 Graduate research assistant, Institute of Computer Graphics, Department of Computer Science, University of Rostock, Germany
Investigated hierarchical rendering methods for PDAs
- 1997 Research for Masters thesis, Philips Research Laboratories, Division Technical Systems, Hamburg, Germany
Implemented and optimised fast volume rendering methods in medical imaging systems
- 1996-1997 Undergraduate research assistant, Institute of Computer Graphics, Department of Computer Science, University of Rostock, Germany
Designed and implemented a test environment for automatic surface fairing

algorithms for free-form surfaces

1995 Research internship, Philips Research Laboratories, Division Technical Systems, Hamburg, Germany
Investigated methods for 3D registration of multi-modal medical images

Non-Academic
2008

Web Systems Manager and Architect, ITSS Branch, Corporate Division, Department of Broadband, Communication and the Digital Economy (Federal Government), Canberra, Australia
Responsible for all technical and strategic aspects in relation to web technology in the department

CURRENT RESEARCH PROJECTS

From Talking Head to Thinking Heads, jointly funded ARC and NHMRC 'Thinking Systems' project with University of Western Sydney, Macquarie University, Flinders University, and the University of Canberra (5 years)

Sensing of abnormal affect due to depression and melancholia, pilot study with the Black Dog Institute, University of NSW, Sydney

The Big Australian Speech Corpus: An Audio-Visual Speech Corpus of Australian English, ARC LIEF grant 2010, multi-university project

CURRENT RESEARCH INTERESTS

Robust head, face, and non-rigid facial feature tracking using statistical models and machine learning techniques

Infrared imaging for tracking and health applications, computer vision beyond the visible spectrum

Image feature detection, tracking and classification

Natural human-computer interaction and perceptual user interfaces

Structural pattern recognition

Statistical machine learning techniques, in particular applied to computer vision problems

Affective sensing/computing (affective state / emotion recognition)

Signal processing

Auditory-visual speech processing

Biometrics, in particular face recognition

RELEVANT COMPUTER SKILLS

Image processing and computer vision methods

Signal processing methods

Statistical machine learning methods

Visualisation techniques

Design and implementation of software systems on Unix/Linux and Windows platforms

Configuration of hardware/software systems, server administration

Programming languages C/C++/.NET, Java, Perl, Pascal, Basic

Programming tools / IDEs Microsoft Visual Studio, Eclipse

Scripting languages Perl, Python, PHP, Javascript

Database language SQL (PostgreSQL, MySQL)

Web design HTML/SHMTL, XML, Joomla CMS, MySource Matrix CMS

OpenGL graphics library, OpenCV and VxL computer vision libraries

Mathematical and statistical software systems Matlab and R / S-PLUS

Speech processing with ESPS / waves+ and Hidden Markov Toolkit HTK

PROFESSIONAL AFFILIATIONS

IEEE Computer Society

IEEE Signal Processing Society

International Speech Communication Association ISCA

Australian Speech Science and Technology Association ASSTA, elected member of the executive since December 2004

ARC Research Network “Human Communication Sciences Network”

Australian Pattern Recognition Society

HUMAINE Association

GRANTS RECEIVED

- 2010 ARC Large Infrastructure, Equipment and Facilities (LIEF) grant “The Big Australian Speech Corpus: An Audio-Visual Speech Corpus of Australian English”, LE100100211, \$660k for 1 year
- 2007 ASSTA Research Event and ISCA ITRW grants for International Workshop on Auditory-Visual Speech Processing (AVSP2008), \$6.6k, additional sponsorship of \$10k from other sponsors
- 2007 HCSNet Research Event grant for workshop on the use of vision in HCI (VisHCI 2007), \$12.5k, additional sponsorship of \$2k from other sponsors
- 2006 ARC & NHMRC funded Thinking Systems initiative grant “From Talking Heads to Thinking Heads”, \$3.4M, member of grant writing team and later CI/PI roles, currently employed on this grant as a Research Fellow
- 2006 HCSNet Research Event grant for workshop on the use of vision in HCI (VisHCI 2006), \$25k, additional sponsorship of \$6k from other sponsors
- 2005 ARC Special Research Initiative (SRI) eResearch grant “DADA-HCS: Distributed Access and Data Annotation for the Human Communication Sciences”, SR0567319, \$145k for 12 months
- 2005 Travel grant, Australian Speech Science and Technology Association, Canberra, Australia
- 2004 Travel grant, Australian Speech Science and Technology Association, Canberra, Australia
- 1994 Travel grant, German Academic Exchange Service DAAD, Bonn, Germany

SCHOLARSHIPS AND AWARDS

- 2009 Top Research Student Supervisor, Australian National University, Canberra, Australia
- 2007 CISRA High Quality Colour Imaging Best Paper Prize at the DICTA 2007 conference, Adelaide, for the paper “Quaternion Potential Functions for a Colour Image Completion Method Using Markov Random Fields”
- 2005 Nominated for Vice-Chancellor’s Award for Excellence in Supervision,

Australian National University, Canberra, Australia

- 2004 PhD of the Year award, Australian Speech Science and Technology Association, Canberra, Australia
- 1998-2002 ANU Ph.D. Scholarship and Vice-Chancellor Tuition Scholarship, Australian National University, Canberra, Australia
- 1998-2002 Top-up Scholarship, Cooperative Research Centre for Advanced Computational Systems, Canberra, Australia
- 1994-1995 Study Abroad Scholarship, German Academic Exchange Service DAAD, Bonn, Germany

TEACHING

- 2009 ISE4478 – Introduction to Information Technology, Undergraduate level, University of Canberra, Unit convener and lecturer for Semester 2, Repeat lectures and tutorials in Semester 1
- 2009 ISE4483 – Software Technology 1, Undergraduate level, University of Canberra, Tutorials
- 2009 ISE7170 – Software Technology 2, Undergraduate level, University of Canberra, Tutorials
- 2007 ENGN8530 - Computer Vision and Image Understanding: Theories and Research, Postgraduate coursework unit, Australian National University, Unit convenor
- 2006 & 2007 ENGN8531 - Advanced Research Topics in Computer Vision, Postgraduate coursework unit, Australian National University, Unit co-convenor
- 2003 Introduction to Statistical Analysis using R, Undergraduate level, University of Rostock, Germany, Unit convenor

CONFERENCE ATTENDANCE

Presentations

- 2009 International Conference on Affective Computing and Intelligent Interfaces ACII 2009, Amsterdam, Netherlands
- 2009 British Machine Vision Conference BMVC2009, London, UK
- 2009 IEEE International Conference on Computer Vision and Pattern Recognition CVPR 2009, poster Miami, USA

- 2008 International Conference on Auditory-Visual Speech Processing AVSP2008, oral presentation, Moreton Island, Australia
- 2007 Eleventh IEEE International Conference on Computer Vision ICCV2007, poster presentation, Rio de Janeiro, Brazil
- 2006 NICTA-HCSNet Effective Interactive Interfaces Workshop, oral presentation, Sydney, Australia
- 2006 Beyond Patches Workshop at the IEEE Computer Society Conference on Computer Vision and Pattern Recognition CVPR2006, oral presentation, New York, USA, 17-22 June 2006.
- 2005 NICTA-HCSNet Multimodal User Interaction Workshop (MMUI2005), oral presentation, Sydney, Australia
- 2005 IEEE Eighth International Symposium on Signal Processing and Its Applications ISSPA2005, oral presentation, organiser and chair of special session on “Joint Audio-Video Signal Processing and Its Applications”, Sydney, Australia
- 2005 Auditory-Visual Speech Processing AVSP2005, oral presentation, Vancouver Island, Canada
- 2005 2nd Joint Workshop on Multimodal Interaction and Related Machine Learning Algorithms MLMI’05, poster presentation, Edinburgh, UK
- 2005 Gestural Interaction Workshop GIW’05, oral presentation, Sydney, Australia
- 2004 10th Australian International Conference on Speech Science and Technology SST2004, oral presentation, Sydney, Australia
- 2004 8th International Conference on Spoken Language Processing Interspeech 2004 – ICSLP, poster presentation, Jeju, Korea
- 2003 ISCA Tutorial and Research Workshop on Audio Visual Speech Processing AVSP 2003, oral presentation, St Jorioz, France
- 2003 IASTED International Conference on Signal Processing, Pattern Recognition, and Applications SPPRA 2003, oral presentation, Rhodes, Greece
- 2003 4. Information- und Kommunikations-Tage Mecklenburg-Vorpommern, oral presentation, Rostock, Germany
- 2002 International Conference on Web Delivery of Music 2002, oral presentation, Darmstadt, Germany
- 2001 Audio-Visual Speech Processing AVSP’01, oral presentation, Aalborg, Denmark

- 2001 ICASSP 2001, poster presentation, Salt Lake City, USA
- 2000 Speech Science and Technology SST-2000, oral presentation, Canberra, Australia
- 2000 Australasian Conference on Robotics & Automation ACRA2000, oral presentation, Melbourne, Australia
- 1999 International Workshop on Biomedical Image Registration WBIR'99, oral presentation, Bled, Slovenia
- 1996 Graphics & Web'96, oral presentation, Dresden, Germany
- Attendance Only*
- 2008 DICTA 2008, Canberra, Australia, Oral presentation by my PhD student Asim Khwaja
- 2008 Interspeech 2008, Brisbane, Australia, Poster presentation by my PhD student Gordon McIntyre
- 2006 Speech Science and Technology SST2006, Auckland, New Zealand, Poster presentation by my PhD student Gordon McIntyre
- 2006 HCSNet Workshop on the Use of Vision in Human-Computer Interaction VisHCI 2006, Canberra, Australia, Oral presentation by my PhD student Jason Saragih, Workshop co-chair and proceedings co-editor
- 2006 IEEE Computer Society Conference on Computer Vision and Pattern Recognition CVPR2006, New York, USA
- 2006 Australian Sports Technology Conference, Canberra, Australia
- 2006 ICPR 2006, Hong Kong, Oral presentation by my PhD student Jason Saragih
- 2001 Eurospeech'01, Aalborg, Denmark
- 1999 Eurospeech'99, Budapest, Hungary
- 1999 Computer Analysis of Images and Patterns CAIP'99, Ljubljana, Slovenia
- 1998 ICSLP'98, Sydney, Australia
- 1998 Audio-Visual Speech Processing AVSP'98, Terrigal, Australia

INVITED PRESENTATIONS

- 2009 “Facial video processing for affective computing”, University of Western Sydney,

MARCS Auditory Laboratories, Sydney, Australia

- 2008 *“Developing Affective Sensing Technology”*, Black Dog Institute, University of New South Wales, Sydney, Australia
- 2007 *“Face Tracking and Its Applications”*, University of Canberra, School of Information Science and Engineering, Canberra, Australia
- 2006 *“Recent Work on Active Appearance Models and 3D Lip Tracking”*, IBM TJ Watson Research Center, Yorktown, USA
- 2005 *“Multimodal Affective Sensing using Infrared Imaging”*, Carnegie-Mellon University, Advanced Multimedia Processing Lab, Pittsburgh, USA
- 2005 *“Multimodal Affective Sensing”*, University of Western Australia, Department of Computer Science & Software Engineering, Perth, Australia
- 2003 *“Correlation of Audio and Video Speech Parameters in Australian English”*, Indiana University Purdue University Indianapolis, Department of Computer and Information Science, Indianapolis, USA
- 2003 *“Correlation of Audio and Video Speech Parameters in Australian English”*, Beckman Institute for Advanced Science and Technology, Department of Human-Computer Intelligent Interaction, University of Illinois at Urbana-Champaign, Urbana-Champaign, USA
- 2002 *“Automatic Lip Tracking using Stereo Vision”*, Philips Research Laboratories, Department of Medical Imaging, Aachen, Germany

STUDENT SUPERVISION

- 2010-present Abhinav Dhall, PhD student, Australian National University, Chair of supervisory panel
- 2009-2010 Miles de la Hunty, Summer research scholar, Australian National University, Primary supervisor
- 2008-present Akshay Asthana, PhD student, Australian National University, Chair of supervisory panel
- 2007-present Asim Khwaja, PhD student, Australian National University, Chair of supervisory panel
- 2006-2009 Desmond Chik, PhD student, Australian National University, Co-supervisor
- 2006-2009 Surya Prakash, PhD student, Australian National University, Co-supervisor
- 2006-present Quang Anh Nguyen, PhD student, Australian National University, Co-

supervisor

- 2006-2009 Tim Raupach, Masters student, Australian National University, Co-supervisor
- 2006-2007 Huy Tho Ho, Summer scholar, University of Adelaide, Australia, Primary supervisor
- 2006-2007 Akshay Asthana, Summer scholar, Jaypee Institute of Information Technology, India, Primary supervisor
- 2006-2007 Henri Kan John, Summer scholar, Victoria University, Australia, Primary supervisor
- 2005-present Gordon McIntyre, PhD student, Australian National University, Chair of supervisory panel
- 2005-2006 Tobias Lott, Visiting Masters Student doing his Masters Thesis, University of Applied Science Konstanz, Germany, Primary supervisor
- 2005-2006 Matthias Winkler, Visiting Masters Student doing his Masters Thesis, University of Applied Science Karlsruhe, Germany, Primary supervisor
- 2005-2006 Arne Arnold, Visiting Masters Student doing his Masters Thesis, University of Applied Science Mannheim, Germany, Primary supervisor
- 2005-2006 Damitha Gunawardena, Summer scholar, University of Adelaide, Australia, Primary supervisor
- 2005 Akshat Bal Dikshit, Research intern, IIT Bombay, Mumbai, India, Primary supervisor
- 2004-2008 Jason Saragih, PhD student, Australian National University, Chair of supervisory panel
- 2004-2005 Ian Wilson, Summer scholar, Australian National University, Canberra, Australia, Co-supervisor
- 2003-2004 Ronny Kaeding, Research Intern, University of Rostock / Fraunhofer IGD, Rostock, Germany, Primary supervisor
- 2002-2004 Karsten Wagenknecht, Research intern, University of Rostock / Fraunhofer IGD, Rostock, Germany, Primary supervisor
- 2000-2001 Quynh Nhu Tran, Summer scholar, University of NSW, Sydney, Australia, Primary supervisor

LANGUAGES

Fluent in German and English

Can understand and communicate in Spanish, Swedish, French, Russian

SERVICE TO THE ACADEMIC COMMUNITY

- | | |
|--------------|---|
| 1999-present | Reviewer for international journals (e.g. IEEE Transactions on Pattern Analysis and Machine Intelligence, Pattern Recognition, Speech Communicatin), international and national conferences (e.g. ICASSP, CVPR, ICCV, AVSP, Interspeech, SST, DICTA), and book publishers (e.g. Springer) |
| 2007-2009 | Area Chair, Digital Image Computing: Technology and Application (DICTA) conferences, Adelaide, Canberra, Melbourne, Australia |
| 2007 | Co-chair and organiser of the HCSNet Workshop on the Use of Vision in HCI (VisHCI 2007), Adelaide, Australia |
| 2007 | Co-chair and organiser of the Workshop on Non-rigid Registration and Tracking through Learning at ICCV2007, Rio de Janeiro, Brazil |
| 2006-2008 | IT Chair and member of conference organising committee for Interspeech 2008, Brisbane, Australia, responsible for technical systems, including website and paper submission / review system |
| 2006-2008 | Chair of the International Conference on Auditory-Visual Speech Processing (AVSP 2008), Moreton Island, Queensland, Australia |
| 2006 | Chair and organiser of the HCSNet Workshop on the Use of Vision in HCI (VisHCI 2006), Canberra, Australia |
| 2005 | Organiser and chair of a special session on “Joint Audio-Video Signal Processing and Its Applications” at the ISSPA2005 conference in Sydney, Australia |
| 2004-2008 | Elected member of the executive of the Australian Speech Science and Technology Association (ASSTA) |
| 2004 | Co-organiser of a research workshop on the analysis of handwritten music scores of the 17 th and 18 th century, Rostock, Germany |
| 2003 | Invited session chair at the IASTED International Conference on Signal Processing, Pattern Recognition, and Applications SPPRA 2003, Rhodes, Greece |
| 2000 | Member of the conference organising committee (Speech Science and Technology SST-2000), Canberra, Australia |

EXTRACURRICULAR ACTIVITIES

- 1999-2002 Trip leader and member of the club executive (2001), Australian National University Mountaineering Club, Canberra, Australia
Trip Leader of the Year (2000)
- 1999-2001 Member of the Graduate House Residents Committee, Australian National University, Canberra, Australia

COURSES ATTENDED

- 2009 Beginning Postgraduate Student Supervision, University of Canberra
- 2009 Sessional Staff Training, University of Canberra
- 2005 Thermal imaging, Australasian Infrared
- 2005 Project management, Australian National University
- 2003 Moderation of group discussions and use of creativity techniques, Zentrum für Graphische Datenverarbeitung, Rostock, Germany
- 2002 Scientific writing, Australian National University, Canberra, Australia
- 2001 Scientific communication, National Centre for the Public Awareness of Science, Canberra, Australia
- 2001 Writing business plans for spin-off companies, Australian National University, Canberra, Australia
- 2000 Writing grant applications, Cooperative Research Centre for Advanced Computational Systems, Canberra, Australia
- 2000 First aid, Level 3, Parasol, Canberra, Australia
- 1999 Public speaking, Toastmaster Club, Australian National University, Canberra, Australia
- 1999 Leadership training for outdoor activities, Australian National University Mountaineering Club, Canberra, Australia
- 1999 First aid, Level 2, Parasol, Canberra, Australia
- 1993-1998 Various language courses in English, French, Spanish and Swedish

PUBLICATIONS

BOOKS AND BOOK CHAPTERS

1. R. Goecke, P. Lucey and S. Lucey. **Proceedings of the International Conference on Auditory-Visual Speech Processing AVSP 2008**, Moreton Island, Australia, 26-29 September 2008, AVISA. ISBN: 978-0-646-49503-3
2. J. Fletcher, D. Loakes, R. Goecke, D. Burnham and M. Wagner. **Proceedings of Interspeech 2008**. Brisbane, Australia, 22-26 September 2008, ISCA.
3. G. McIntyre and R. Goecke. **The Composite Sensing of Affect**. In *Affect and Emotion in HCI*, pp.104-115, Springer Hot Topics series, Lecture Notes in Computer Science LNCS 4868, August 2008. Springer. DOI: 10.1007/978-3-540-85099-1_9
4. G. McIntyre and R. Goecke. **Towards Affective Sensing**. *Proceedings of the 12th International Conference on Human-Computer Interaction HCII2007*, Vol. 3, pp. 411-420, Lecture Notes in Computer Science LNCS 4552, Beijing, China, 22-27 July 2007. Springer.
5. C. Peter, R. Schultz, J. Voskamp, B. Urban, N. Nowack, H. Janik, K. Kraft, and R. Goecke. **Evaluating the EREC-II sensor system for sensing affective states and monitoring human performance**. *Proceedings of the 12th International Conference on Human-Computer Interaction HCII2007*, Vol. 3, pp. 465-474, Lecture Notes in Computer Science LNCS 4552, Beijing, China, 22-27 July 2007. Springer.
6. R. Goecke, A. Robles-Kelly, and T. Caelli (eds.). **Proceedings of the HCSNet Workshop on the Use of Vision in HCI (VisHCI 2006)**. Conferences in Research and Practice in Information Technology Series, Vol. 56, Canberra, Australia, November 2006. Australian Computer Society.

JOURNAL PUBLICATIONS

7. J. Saragih and R. Goecke. **Learning AAM Fitting through Simulation**. *Pattern Recognition*: 42(11): 2628-2636, Nov. 2009, Elsevier. IF=3.279 (2008)
8. R. Goecke. **eNoteHistory – Analysing handwritten music scores**. *Computer Graphics topics*, Vol. 16(2), pp.35-36, 2004.
9. A. Waczkat, E. Krueger, T. Schwinger, A. Heuer, T. Ignatova, B. Urban, R. Goecke. **eNoteHistory - Identifizierung von Schreiberhänden in historischen Notenhandschriften mit Werkzeugen der modernen Informationstechnologie**. *aibm Forum Musikbibliothek*, 1/2004.
10. R. Goecke. **FAMIA - Facial Mimic Analysis**. *Computer Graphics topics*, Vol. 15(2), pp.29-30, 2003.
11. C.-W. Jo, R. Goecke, and J.B. Millar. **Collection of Korean Audio-Video Speech Data**. *Speech*

CONFERENCE PUBLICATIONS (REFEREED)

12. A. Khwaja and R. Goecke. **Biologically Inspired Contrast Enhancement Using Asymmetric Gain Control.** To appear in *Proceedings of the International Conference on Digital Image Computing: Techniques and Applications DICTA2009*, Melbourne, Australia, 1-3 Dec. 2009. APRS.
13. M. Obaid, R. Mukundan, R. Goecke, M. Billingham and H. Seichter. **A Quadratic Deformation Model for Facial Expression Recognition.** To appear in *Proceedings of the International Conference on Digital Image Computing: Techniques and Applications DICTA2009*, Melbourne, Australia, 1-3 Dec. 2009. APRS.
14. A. Asthana, A. Khwaja and R. Goecke. **Automatic Frontal Face Annotation and AAM Building for Arbitrary Expressions from a Single Frontal Image Only.** To appear in *Proceedings of the 2009 IEEE International Conference on Image Processing ICIP2009*, Cairo, Egypt, 7-11 Nov. 2009. IEEE.
15. T. Shochi, K. Sekiyama, N. Lees, M. Boyce, R. Göcke, D. Burnham. **Auditory-Visual Infant Directed Speech in Japanese and English.** To appear in *Proceedings of the International Conference on Auditory-Visual Speech Processing AVSP2009*, Norwich, UK, 10-13 Sep. 2009. AVISA.
16. G. Chetty, R. Goecke and M. Wagner. **Audio-Visual Mutual Dependency Models for Biometric Liveness Checks.** To appear in *Proceedings of the International Conference on Auditory-Visual Speech Processing AVSP2009*, Norwich, UK, 10-13 Sep. 2009. AVISA.
17. A. Asthana, J. Saragih, M. Wagner and R. Goecke. **Evaluating AAM Fitting Methods for Facial Expression Recognition.** To appear in *Proceedings of the IEEE International Conference on Affective Computing and Intelligent Interaction ACII2009*, Amsterdam, Netherlands, 10-12 Sep. 2009. IEEE.
18. G. McIntyre, R. Goecke, M. Hyett, M. Green and M. Breakspear. **An Approach for Automatically Measuring Facial Activity in Depressed Subjects.** To appear in *Proceedings of the IEEE International Conference on Affective Computing and Intelligent Interaction ACII2009*, Amsterdam, Netherlands, 10-12 Sep. 2009. IEEE.
19. A. Asthana, C. Sanderson, T. Gedeon and R. Goecke. **Learning-based Face Synthesis for Pose-Robust Recognition from Single Image.** To appear in *Proceedings of the British Machine Vision Conference BMVC2009*, London, UK, 7-10 Sep. 2009, BMVA.
20. D. Burnham, E. Ambikairajah, J. Arciuli, M. Bennamoun, C.T. Best, S. Bird, A.R. Butcher, S. Cassidy, G. Chetty, F.M. Cox, A. Cutler, R. Dale, J.R. Epps, J.M. Fletcher, R. Goecke, D.B. Grayden, J.T. Hajek, J.C. Ingram, S. Ishihara, N. Kemp, Y. Kinoshita, T. Kuratate, T.W. Lewis, D.E. Loakes, M. Onslow, D.M. Powers, P. Rose, R. Togneri, D. Tran, M. Wagner. **A Blueprint for a Comprehensive Australian English Auditory-Visual Speech Corpus.** Selected Proceedings of the 2008 HSCNet Workshop on Designing the Australian National Corpus, Cascadilla Proceedings Project, Somerville, MA, July 2009.

21. A. Asthana, R. Goecke, N. Quadrianto and T. Gedeon. **Learning Based Automatic Face Annotation for Arbitrary Poses and Expressions from Frontal Images Only.** *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition CVPR2009*, pp. 1635-1642, Miami (FL), USA, 20-25 June 2009. IEEE.
22. A. Khwaja and R. Goecke. **Image Reconstruction from Contrast Information.** *Digital Image Computing: Techniques and Applications (DICTA 2008)*, Canberra, Australia, 1-3 December 2008. APRS. DOI: 10.1109/DICTA.2008.66
23. D. Zhu, B.S.U. Mendis, T. Gedeon, A. Asthana and Roland Goecke. **A Hybrid Fuzzy Approach for Human Eye Gaze Pattern Recognition.** *Proceedings of the 15th International Conference on Neural Information Processing of the Asia-Pacific Neural Network Assembly ICONIP 2008*, Auckland, New Zealand, 25-28 November 2008.
24. R. Goecke and A. Asthana. **A Comparative Study of 2D and 3D Lip Tracking Methods for AV ASR.** *Proceedings of the International Conference on Auditory-Visual Speech Processing AVSP 2008*, pp. 235-240, Moreton Island, Australia, 26-29 September 2008. AVISA.
25. G. McIntyre and R. Goecke. **A Composite Framework for Affective Sensing.** *Proceedings of Interspeech 2008*, pp. 2767-2770, Brisbane, Australia, 22-26 September 2008. ISCA.
26. H.T. Ho and R. Goecke. **Optical Flow Estimation using Fourier Mellin Transform.** *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition CVPR2008*, Anchorage, USA, 24-26 June 2008. IEEE. DOI: 10.1109/CVPR.2008.4587553
27. H.T. Ho and R. Goecke. **Quaternion Potential Functions for a Colour Image Completion Method Using Markov Random Fields.** *Proceedings of the Digital Image Computing: Techniques and Applications conference DICTA 2007*, pages 324-331, Adelaide, Australia, 3-5 December 2007. APRS. (This paper won the **CISRA High Quality Colour Imaging Best Paper Prize.**)
28. J. Saragih and R. Goecke. **A Nonlinear Discriminative Approach to AAM Fitting.** *Proceedings of the Eleventh IEEE International Conference on Computer Vision ICCV2007*, DOI 10.1109/ICCV.2007.4409106, Rio de Janeiro, Brazil, 14-20 October 2007. IEEE.
29. H.T. Ho and R. Goecke. **Automatic Parametrisation for an Image Completion Method Based on Markov Random Fields.** *Proceedings of the 2007 IEEE International Conference on Image Processing ICIP2007*, Vol. 3, pp. 541-544, San Antonio (TX), USA, 16-19 September 2007. IEEE.
30. J. Saragih and R. Goecke. **Monocular and Stereo Methods for AAM Learning from Video.** *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition CVPR2007*, Minneapolis (MN), USA, 18-23 June 2007. IEEE. DOI: 10.1109/CVPR.2007.383058
31. R. Goecke, A. Asthana, N. Pettersson, and L. Petersson. **Visual Vehicle Egomotion Estimation using the Fourier-Mellin Transform.** *Proceedings of the 2007 IEEE Intelligent Vehicles Symposium IV'07*, pp. 450-455, Istanbul, Turkey, 13-15 June 2007. IEEE. DOI: 10.1109/IVS.2007.4290156
32. R. Goecke, N. Pettersson, and L. Petersson. **Towards Detection and Tracking of On-Road**

- Objects.** *Proceedings of the 2007 IEEE Intelligent Vehicles Symposium IV'07*, pp. 416-421, Istanbul, Turkey, 13-15 June 2007. IEEE. DOI: 10.1109/IVS.2007.4290150
33. G. McIntyre and R. Goecke. **Researching Emotions in Speech.** In *Proceedings of the Eleventh Australasian International Conference on Speech Science and Technology SST2006*, pp. 264-269, Auckland, New Zealand, 6-8 December 2006. ASSTA.
 34. J.M. Saragih and R. Goecke. **Learning Active Appearance Models from Image Sequences.** In *Proceedings of the HCSNet workshop on the Use of Vision in HCI VisHCI2006*, Vol. 56, pp. 51-60, Canberra, 1-3 November 2006. ACS.
 35. J.M. Saragih and R. Goecke. **Iterative Error Bound Minimisation for AAM Alignment.** In *Proceedings of the 18th International Conference on Pattern Recognition ICPR2006*, Vol. 2, pp. 1192-1195, Hong Kong, 20-24 August 2006. IEEE. DOI: 10.1109/ICPR.2006.730
 36. A. Robles-Kelly and R. Goecke. **A Wavelet-based Approach to Image Feature Stability Assessment.** In *Proceedings of the Beyond Patches Workshop at the IEEE Computer Society Conference on Computer Vision and Pattern Recognition CVPR2006*, CD-ROM, New York, USA, 17-22 June 2006. IEEE. DOI: 10.1109/CVPRW.2006.22
 37. R. Goecke. **Audio-Video Automatic Speech Recognition: An Example of Improved Performance through Multimodal Sensor Input.** In Fang Chen and Julien Epps (eds.), *Proceedings of the NICTA-HCSNet Multimodal User Interaction Workshop (MMUI2005)*, Conferences in Research and Practice in Information Technology, Vol. 57, pp. 25-32, Sydney, Australia. Australian Computer Society.
 38. R. Goecke. **Current Trends in Joint Audio-Video Signal Processing: A Review.** In *Proceedings of the IEEE Eighth International Symposium on Signal Processing and Its Applications*, pp. 70-73, Sydney, Australia, 29 Aug - 1 Sep 2005. IEEE.
 39. R. Goecke. **3D Lip Tracking and Co-inertia Analysis for Improved Robustness of Audio-Video Automatic Speech Recognition.** In *Proceedings of the Auditory-Visual Speech Processing Workshop AVSP 2005*, pp. 109-114, Vancouver Island, Canada, 24 - 27 July 2005.
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