

Curriculum Vitae

1 Personal

Name: Geoffrey Richard Taylor
Date of Birth: 16 November 1976
Address: 55 Valkstone Street, Bentleigh East, VIC 3165, Australia
Phone: +61 3 9905 3501 (BH), +61 3 9570 3570 (AH)
Mobile: 0411 090 668
Fax: +61 3 9905 3454 (BH)
Email: Geoffrey.Taylor@eng.monash.edu.au

2 Qualifications

Graduate Monash University, Clayton Campus
2000 – present Intelligent Robotics Research Centre
 Dept. of Electrical and Computer System Engineering
 PhD, *submitted for examination*

Undergraduate Monash University, Clayton Campus
1995 – 1999 BSc Maths and Physics, 1998
 BE (Honours) Electrical and Computer Systems Engineering, 2000

2.1 Awards

2003 First prize, ECSE Postgraduate Research Forum poster presentation
2002 Joint second prize, ECSE Postgraduate Research Forum poster presentation
2001 First prize, ECSE Postgraduate Research Forum poster presentation
1999 Recipient of Graham Beard Memorial Prize for overall proficiency in
 Electrical and Computer Systems Engineering course
1999 Awarded Silicon Graphics International Prize for displaying greatest
 proficiency in a project in digital electronics or computer engineering
1999 Recipient of RS Components Award for Engineering Excellence for best
 final year project
1999 Esso Engineering Prize for best lab work in Information Transmission
1999 Awarded Monash Vice-Chancellor's Undergraduate Research Scholarship
 for academic merit and research potential
1998-1999 Telstra Research Laboratories Undergraduate Education Fellowship
1996 Awarded prize for the best technical report in second year Electrical and
 Computer Systems Engineering subjects
1995 Awarded prize (jointly) for the highest result in first year Physics subjects
1995 – 1997 Member of Faculty of Science Dean's List for duration of BSc candidature
1994 Dux of McKinnon Secondary College, achieving a VCE TER of 99.8%
1993 Awarded the Monash Prize for academic achievement in Year 11
1989, 1993 Prize winner, Westpac Australian Mathematics Competition

3 Appointments

Feb 2004 – Research Fellow, ARC Centre for Perceptive and Intelligent Machines in
present Complex Environments. Research into people tracking for surveillance,
 using fusion of multimodal sensors on a mobile robot platform.

Dec 1998 – Vacation work, Telstra Research Laboratories, Blackburn Road, Clayton.
Feb 1999 Conceived, developed and demonstrated applications for the OpenTV
 interactive TV platform, using both proprietary software tools and Java tools.

4 Research

4.1 Refereed Journal Articles

- R. A. Russell, G. Taylor, L. Kleeman and A. H. Purnamadajaja, “Multi-sensory synergies in humanoid robotics”, *International Journal of Humanoid Robotics*, *accepted*.
- G. Taylor and L. Kleeman, “Stereoscopic light stripe scanning: interference rejection, error minimization and calibration”, *Int. Journal of Robotics Research*, *accepted with revisions*..

4.2 Refereed Conference Papers

- G. Taylor and L. Kleeman, “Fusion of multimodal visual cues for model-based object tracking”, 2003 Australasian Conference on Robotics and Automation, Brisbane, 1-3 December 2003.
- G. Taylor and L. Kleeman, “Robust range data segmentation using geometric primitives for robotic applications”, *Proceedings 9th IASTED International Conference on Signal and Image Processing*, Honolulu, 13-15 August 2003, pages 467–472.
- G. Taylor and L. Kleeman, “Grasping unknown objects with a humanoid Robot”, *Proceedings 2002 Australasian Conference on Robotics and Automation*, Auckland, 27-29 November 2002, pp. 191-196.
- G. Taylor, L. Kleeman and Å. Wernersson, “Robust colour and range sensing for robotic applications using a stereoscopic light stripe scanner”, *IEEE/RSJ International Conference on Intelligent Robots and Systems*, Lausanne, 30 September – 4 October 2002, pp. 86-91.
- G. Taylor and L. Kleeman, “Flexible self-calibrated visual servoing for a humanoid robot”, *Proceedings of the 2001 Australian Conference on Robotics and Automation*, Sydney, 14-15 November 2001, pp 79-84.
- A. Price, G. Taylor and L. Kleeman, “Fast, robust colour vision for the Monash humanoid”, *Proceeding of the Australian Conference on Robotics and Automation*, Melbourne, 30 August – 1 September 2000, pp 141-146.

4.3 Other Publications

- G. Taylor and L. Kleeman, “Visual sensing for perception and control in robotic applications”, *SPIE International Technical Group Newsletter on Robotics and Machine Perception*, vol. 12, no. 2, Sept 2003, pp. 6 & 11.
- G. Taylor and L. Kleeman, “Perception and control for a humanoid robot using vision”, *Dept. of ECSE, Academic Research Forum*, 11 Feb 2003.

4.4 Research Projects

- Dec 1997 – William Buckland Radiotherapy Centre, Physics Department, Alfred
Jan 1998 Hospital, on a studentship from the Anti-Cancer Council of Victoria.
Developed image processing techniques for automatic calibration of linear
accelerator used in treatment of cancer patients.

4.5 Referee Activities

- International Journal of Humanoid Robotics, 2003
- Fifth Asian Conference on Computer Vision (ACCV 2002)

4.6 Invited Seminars

“Range Data Segmentation for Robotic Applications”, Lunchmaths seminar series, School of Mathematical Sciences, Monash University Sept 2003.

“Versatile Visual Servoing for a Humanoid Robot”,

University of Oulu, Finland Oct 2001

KTH, Stockholm Sweden Oct 2001

Lulea Technical University, Dept. of Comp. Sci. and Electrical Eng., Sweden Sept 2001

Carnegie Mellon University, Robotics Research Institute Aug 2001

4.7 Departmental Seminars

“Robust Range Data Segmentation Using Geometric Primitives for Robotic Applications”, IRRC seminar series, Aug 2003

“Robust Stereoscopic Light Stripe Ranging”, IRRC seminar series, April 2002

“Versatile Visual Servoing for a Humanoid Robot”, Dept. of ECSE seminar series, May 2001

Annual ECSE Postgraduate Research Forum, poster presentations, 2000 – 2003

4.8 Research Interests

My current research interests include robotics and robot vision, human-machine interaction, sensor fusion and computer graphics.

5 Teaching Experience

- Invited lecture to undergraduate students (ECE4711) on 3D range data segmentation, Monash University, Dept. of Electrical and Computer Systems Engineering, Aug 2003
- Invited lecture on visual servoing for humanoid robotics, Lulea Technical University, Dept. of Computer Science and Electrical Engineering, Sweden, Sept 2001
- Laboratory Demonstration:
 - ECE3704 Software Engineering and Real Time Systems, 2000, 2002-2003
 - ECE2701 Digital Logic, 2000-2003
 - ECS3363 Introduction to VLSI Systems, 2000
 - ECE3703 Computer Engineering, 2000
- Private tuition of primary and secondary students, 1995-1999.

6 Professional Affiliations

- Member, Australian Robotics and Automation Association (ARAA)

7 Administrative Responsibilities

- Elected member of postgraduate staff consultative committee, 2003.
- Interviewed students for laboratory assessment in ECE3704 Software Engineering and Real-Time Systems, 2002-2003.

8 Referees

Professor Ray Jarvis

Dept. of Electrical & Computer Systems Engineering
Monash University
Phone: +61 3 9905 3470
Fax: +61 3 9905 3454
Email: Ray.Jarvis@eng.monash.edu.au

Assoc. Professor Lindsay Kleeman

Dept. of Electrical & Computer Systems Engineering
Monash University
Phone: +61 3 9905 3491
Fax: +61 3 9905 3454
Email: Lindsay.Kleeman@eng.monash.edu.au

Assoc. Professor R. Andy Russell

Dept. of Electrical & Computer Systems Engineering
Monash University
Phone: +61 3 9905 3462
Fax: +61 3 9905 3454
Email: Andy.Russell@eng.monash.edu.au