

Curriculum Vitae

WINNEMÖLLER, Holger (PhD)

Objective

Research & development in computer graphics for movie production with particular interest in visual effects and rendering.

Contact Details

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Research

PhD: Investigating the mutual connections between non-photorealistic imagery and human perception: Using models of low level human vision to meaningfully abstract and simplify images; and using non-photorealistic imagery to determine the effectiveness of directed visual cues on task-based performance.

Previous: Real-time Non-photorealistic Rendering of 3D models; Image-based (keywords) rendering; Perceptually-motivated rendering algorithms; Virtual Environments; Non-linear dimensionality reduction (analysis, visualization and synthesis of: video, motion-capture data, and illumination-variant images); Gesture Recognition; Automatic High Dynamic Range Compositing.

Education

2004-2006 - PhD (completed) at Northwestern University

2002-2004 - PhD candidate in Computer Science at University of Cape Town

2000-2002 - Masters of Science in Computer Science at Rhodes University

1998-2000 - B.Sc. (Hons.) in Computer Science at Rhodes University (with Distinction)

1997-1998 - B.Sc. in Physics and Computer Science at Rhodes University (with Distinction)

1995-1996 - Physics and Computer Science at Hamburg University

1994, 1995 - Linguistics and Language, History & Culture of America at Hamburg University

Publications

- WINNEMÖLLER H., OLSEN S. AND GOOCH B. Real-time video abstraction, ACM Transactions on Graphics, 25, 3 (August 2006), 1221–1226.
- WINNEMÖLLER H., MOHAN A., TUMBLIN J. AND GOOCH B. Lightwaving: Estimating Light Positions from Photographs alone. In *Computer Graphics Forum 24*, 3 (September 2005), 433-438.
- WINNEMÖLLER H., AND BANGAY S. Rendering Optimisations for Stylised Sketching. In *ACM Afrigraph 2003: 2nd International Conference on Computer Graphics, Virtual Reality and Visualization in Africa* (February 2003), ACM, ACM SIGGRAPH, pp. 117--122.
- WINNEMÖLLER H., AND BANGAY S. Geometric Approximations towards free Specular Comic Shading. *Computer Graphics Forum 21*, 3 (September 2002), 309--316.
- WINNEMÖLLER H. Implementing Non-photorealistic Rendering Enhancements with Real-Time Performance. Master's thesis, Rhodes University, South Africa, (2002).
- WINNEMÖLLER H., AND BANGAY S. Super-realistic Rendering using Real-time Tweening. In *SATNAC 2001* (September 2001), South African Telecommunication Networks & Applications Conference.
- WINNEMÖLLER H. Practical Gesture Recognition for controlling Virtual Environments. Honours Thesis, submitted in partial fulfilment of the requirements for the degree of Bachelor of Science (Honours) of Rhodes University, (1999).

Awards

Year	Prizes & Scholarships	Academic Colours
2004	- UCT Travel Scholarship	n.a.
2000	- Rhodes University Postgraduate Scholarship - Master's Degree Scholarship	n.a.
1999	- Henry Bradlow Scholarship for Science - Rhodes University Postgraduate Scholarship - Master's Degree Scholarship	Honours
1998	- Alexander Ogg Prize for Physics - Dr. Kendall Scholarship	Colours
1997	- A Trevor Williams' Prize for Physics II	Half-Colours

Teaching and Practical Experiences

2002-2004	-	Freelance Software Development
2003	-	Senior Tutor for Introduction to Programming (Java)
2002	-	Teaching Assistant for Introduction to Programming (Java)
	-	Lecturer for first year Java Modules (GUI programming & 2D Graphics in Java)
1998-2002	-	Tutoring for third year Computer Science at Rhodes University.
	-	Special tutoring for first year Computer Science course.
	-	Practical tutoring for first year Physics.
1995	-	Installation and maintenance of Computer equipment as well as programming for civil engineering project in Mbabane, Swaziland.
1995	-	Internship at a Hamburg newspaper.
1993-1994	-	Civilian Service in Germany for the "Deutsche Muskelschwund Hilfe"
1990	-	Internship at the "Deutsche Schiffbau-Versuchsanstalt" (German Experimental Ship-building Institute)

Non-Academic Qualifications

2000	-	NAUI Scuba Diver
1995	-	Professional Fitness Instructor
1994, 1996	-	First Aid

Natural Language Skills

	<i>German</i>	<i>English</i>	<i>French</i>
Written	Fluent – Mother tongue	Fluent	Semi-Fluent
Verbal	Fluent – Mother tongue	Fluent	Semi-Fluent

Computer Language Skills *(in order of most common usage first)*

C++ (incl. VisualC++ & C++Builder), C, CG, C#, Java (incl. JBuilder), JavaScript, PHP, Perl, Pascal (incl. Object Pascal & Delphi), Assembler (incl. SSE), VisualBasic.

Technical Skills

Operating Systems:	Windows (XP, 2000, NT, 95), Linux, Unix, Irix.
Technologies:	OpenGL, OpenCV, CG, DirectShow, HTML, CSS, MFC, VCL.
Applications:	Maya, 3D Studio Max, Adobe Photoshop, Adobe Premiere, CorelDraw, Sony Vegas Video.

Personal Interests

Computers, Sports (Weight-Training, Fitness, Squash, Diving, Basketball, Ultimate Frisbee, Rollerblading), Drawing, Reading, Videography, Music.