

Guangyu Wang

McConnell Engineering Building, Room 436
McGill University, 3480 University Street
Montreal, Quebec
Canada, H3A2A7

Phone: +1(514) 566-2260
Fax: +1(514) 398-7348
Email: gywang@cim.mcgill.ca
Web: <http://www.cim.mcgill.ca/~gywang/>

QUALIFICATIONS

- 13-year experience in **C/C++** programming
- 2-year experience in **Java** programming
- 8-year experience in **Matlab** programming
- 9-year experience in **computer graphics and visualization**
- 8-year experience in **image and video processing**
- 5-year experience in **computer vision**
- 3-year experience in **stereoscopic technologies and devices**
- 3-year experience in **human computer interaction**

EDUCATION

Doctor of Philosophy, Computer Science and Engineering The Chinese University of Hong Kong, Hong Kong	2007
Master of Philosophy, Computer Science and Engineering The Chinese University of Hong Kong, Hong Kong	2003
Bachelor of Science in Engineering, Computer Science and Engineering Zhejiang University, Hangzhou, P. R. China	2001

RESEARCH EXPERIENCE

Post-Doc Research Shared Reality Lab, The Centre for Intelligent Machines, McGill University Montreal, Quebec, Canada	2007 - Present
Efficient user interface for medical volume carving <ul style="list-style-type: none">• <i>Collaborated with ETS and MNI colleges; evaluated different input devices, include 2D/3D mouse, wii remote, phantom, and other tailor made devices; utilized motion tracking system</i> Stereoscopic visualization and gestural interaction with multimodal neurological data <ul style="list-style-type: none">• <i>Studied different stereoscopic devices, including polarized projection, autostereo display, and head-mounted display; implemented efficient visualization of multimodal neurological data</i> The world opera <ul style="list-style-type: none">• <i>Built a worldwide opera house located in cyberspace; collaborated with several research labs in Europe and North America</i> 3D shape reconstruction from a calibrated camera array <ul style="list-style-type: none">• <i>Setup a camera array with eight PointGrey cameras; calibrated intrinsic and extrinsic camera parameters</i>	
Doctorate Research Virtual Reality, Visualization and Imaging Research Centre, The Chinese University of Hong Kong Hong Kong	2002 - 2007
Cartoon deringing <ul style="list-style-type: none">• <i>Invented a novel technique to reduce the ringing artifacts in the compressed cartoon image; published the work in the top journal of computer graphics</i> Virtual acupuncture <ul style="list-style-type: none">• <i>Collaborated with two team members, who are Chinese medicine experts; won distinction awards in Local, National and Asia Pacific Technological Competitions</i> GPU-friendly marching cubes <ul style="list-style-type: none">• <i>Implemented the visibility-correct visualization of multiple-layer translucent isosurfaces within volumetric data</i> Intelligent video surveillance <ul style="list-style-type: none">• <i>Developed an efficient system to provide focus+context display of video surveillance</i>	

OTHER EXPERIENCE

Teaching Assistant

2002 - 2007

Department of Computer Science and Engineering, The Chinese University of Hong Kong

CSC3260 Principles of Computer Graphics, Spring 2005/2006/2007

- Gave tutorial twice a week; developed course content and material; evaluated assignments, projects and exams

CSC5210 Advanced Topics in Computer Graphics and Visualization, Fall 2004/2005/2006

- Gave tutorial once a week; implemented novel assignment options; evaluated assignments and projects

CSC3550 Introduction to Computer Graphics, Fall 2003

CSC3280 Introduction to Multimedia Systems, Spring 2003

CSC1110 Introduction to Computing, Fall 2002

- Gave tutorial once a week; evaluated assignments; projects and exams

Paper Reviewer for International Journals and Conferences

- Springer Machine Vision and Applications, MICCAI, HP-MICCAI, Graphics Interface, IEEE Virtual Reality, Pacific Graphics, IEEE SMC

Vice President

2005 - 2006

Chinese Students & Scholars Association (CSSA), The Chinese University of Hong Kong

- Organized hiking competition, basketball tournament, and a series of public seminars

AWARDS

Winner, Best of Research and Development, Asia Pacific ICT Awards

2005

Gold Award, 7th Hong Kong IT Excellence Awards (Post-Secondary)

2005

First Prize, The 9th China National Challenge Cup

2005

- The awarded project "Virtual Acupuncture" provides an accurate virtual human model for the study of Chinese acupuncture, based on the Chinese Visible Human dataset. Innovations include accurate 3D positioning of more than 300 acupuncture points and 12 meridian systems, force feedback to simulate needle puncture, and visualization of arbitrary cutting planes around each acupuncture point.

Excellent Teaching Assistantship, The Chinese University of Hong Kong

2006

PUBLICATIONS

J. R. Cooperstock and G. Wang, Stereoscopic display technologies, interaction paradigms, and rendering approaches for neurosurgical visualization, *Stereoscopic Displays and Applications, in Proceedings of SPIE Vol. 7237*, San Jose, California, USA, January 2009

G. Wang, L. Mercier, D. L. Collins and J. R. Cooperstock, A Comparative Study of Stereoscopic Displays for Identification of a Vessel-Free Path, *Medicine Meets Virtual Reality 2009 (MMVR17)*, Long Beach, California, USA, January 2009.

Y. Xie, G. Wang, P. A. Heng, T. T. Wong, Parallel Visualization of Multiple Translucent Isosurfaces, *IEEE Asia Pacific Conference on Circuits and Systems (APCCAS 2008)*, Macao, China, November 2008.

Y. Xie, P. A. Heng, G. Wang, T. T. Wong, GPU-Friendly Marching Cubes for Visualizing Translucent Isosurfaces, *Medicine Meets Virtual Reality 2007 (MMVR15)*, Long Beach, California, February 2007.

G. Wang, T. T. Wong and P. A. Heng, GPU-Friendly Warped Display for Scope-Maintained Video Surveillance, *ACM/Springer Multimedia Systems Journal*, Vol. 12, No. 3, December 2006, pp. 169-178.

G. Wang, T. T. Wong and P. A. Heng, Deringing Cartoons by Image Analogies, *ACM Transactions on Graphics*, Vol. 25, No. 4, October 2006, pp. 1360-1379.

G. Wang, T. T. Wong and P. A. Heng, Real-Time Distortion-Oriented Video Surveillance, *Proceedings of IEEE International Workshop on Video Surveillance 2006 (VS2006)*, Graz, Austria, May 2006, pp. 129-136.

G. Wang, T. T. Wong and P. A. Heng, Real-Time Surveillance Video Display with Saliency, *Proceedings of the 3rd ACM International Workshop on Video Surveillance & Sensor Networks (VSSN2005)*, Singapore, November 2005, pp. 37-43.

G. Wang, T. T. Wong and P. A. Heng, A Training-Based Method for Reducing Ringing Artifact in BDCT-Encoded Images, *Proceedings of the 7th Eurographics Workshop on Multimedia (EGMM2004)*, Nanjing, China, October 2004, pp. 105-113.

Y. Chen, W. Yang and G. Wang, A fast algorithm for reconstruction of a convex singly connected 3-dimensional object using 2-dimensional photos, *Journal of Zhejiang University (Engineering Science)*, Vol. 36, No. 5, September 2002, pp. 526-530.