

EDUCATION:

Ph.D. candidate in University of Illinois at Chicago, 2005 - present

- Proposed dissertation title: “Immersive Empathic Design for Interdisciplinary Collaborations” studied human-computer interactions in interdisciplinary scientific collaboration projects to find design and development methods to produce software and hardware systems that were really used and helped scientists solving real-world hands-on problems in the field.
 - GPA of 4.0 on a 4.0 scale
- Courses: Advanced Computer Architecture, Parallel Processing, GPU Programming, Software Engineering, Virtual Reality, Computer Animation, Multi-Media System and Human-Computer Interaction.

Master of Science in Computer Science and Information Engineering (CSIE) National Chiao-Tung University (NCTU), Taiwan, 2000

- Thesis title: “View Mosaicing and Object Reconstruction Through Planar Projective Transformation” presented an algorithm to do object reconstruction using un-calibrated image pairs. The algorithm enhanced Levenberg-Marguardt iterative nonlinear minimization method to increase the number of better quality corresponding points for reconstruction in projective space.
- GPA of 3.7 on a 4.0 scale

Bachelor of Science in Computer Science and Information Engineering (CSIE) National Chiao-Tung University (NCTU), Taiwan, 1998

- Senior software project: “A Distributed Problem-Solving Environment”
- GPA of 3.5 on a 4.0 scale

WORK EXPERIENCE:

Research assistant, Electronic Visualization Laboratory, 2005 – current

- Developed visual analytics prototypes for Hands-on Automated Nursing Data System (HANDS) using C/C++, Java, and JavaScript, and HTML5.
- Developed a scalable high-resolution core imagery visualization and data management system, Corelyzer in the CoreWall Suite (www.corewall.org) using C/C++, Java and OpenGL.
- Calibrated and installed a Personal Augmented Reality Immersive System (PARIS) in Cardiff University, United Kingdom.

Intern, Pixar Animation Studios, June 2010 – August 2010

- Developed a film pre-production review system (patent pending) using Objective-C, Core Animation, QTKit, WebKit, JavaScript and HTML5 in Moving Pictures Group, Studio Tools Department.

Teaching assistant, University of Illinois at Chicago, 2005 – 2006

- Computer Graphics I and User Interface Design
- Taught introduction to OpenGL in weekly lab courses and graded student assignments.

Assistant research scientist, National Center for High-performance Computing (NCHC), Jan 2000 – Jan 2005

- Developed Simulation Environment and Analysis Tools (SEAT) using Java, C and Perl and VTK.
- Worked on Global Lake Ecological Observatory Network project (www.gleon.org).
- Collaborated with scientists on scientific visualization for simulations.
- Built a large tile-display wall (tdw.nhc.org.tw).
- Was a member of and contributor to the NCHC Free Software Lab (free.nhc.org.tw).
- Was instructor for grid computing training courses and Sun Microsystems SL-275 Java course.

Senior software developer, IBM Asia-Pacific Content Management Competence Center, 1997 – 2000

- Developed enterprise solutions for global banking corporations using IBM product and technologies.

SKILLS:

C/C++, Objective-C, Java, OpenGL, GLSL, VTK, PHP, Perl, Objective-J, Grid technologies, Mac OS X, Linux and Microsoft Windows.

AWARDS:

- Apple World Wide Developers Conference Student Scholarship, 2006, 2007 and 2009
- US Invention Patent No. US 7,253,841 B2, “Remote Control Method of Tiled Display” filed by NCHC, 2007
- NCHC High Performance Award, 2003
- Honorable mention in software project competition, “A Distributed Problem-Solving Environment”, 1997

MEMBERSHIPS:

- Student member, Association for Computing Machinery, 1998 – present
- Core member, Asia Pacific Grid Policy Management Authority (www.apgridpma.org), 2003 – 2005

PROFESSIONAL ACTIVITIES:

- **“Global Telescience Featuring IPv6 demonstration”, iGrid 2002, Amsterdam, NL:**
Demonstrated an image-based feature extraction and visualization system implemented using C/C++, Java and VTK for a global Telescience portal over the IPv6 network.
- **“NCHC-AIST joint climate simulation demonstration”, SuperComputing 2003, Phoenix AZ:**
Demonstrated a 3D stereo visualization application (C/C++, TCP/IP, OpenGL and VTK) in real-time, receiving climate simulation results from Asia Pacific Grid testbed computation resources.

EXTRACURRICULAR ACTIVITIES:

- NCTU Summer science camp counselor, 1995
- NCTU Student council activities department member, 1996
- NCTU CSIE basketball team captain, lead the team won the 3rd place in national CS tournament, 1997-1998

PERSONAL:

- Play basketball, running, and workout.
- Speak Mandarin, Taiwanese and English.

Selected Publications

- [1] **Chen, Y.C.**, Jagodic, R., Johnson, A., Leigh, J., Cross-Cultural Scientific Collaboration Case Studies, position paper for the Workshop on The Changing Dynamics of Scientific Collaborations, 44th Hawaii International Conference on System Sciences 2011, Koloa, Hawaii, January 2011
- [2] **Chen, Y.C.**, Hur, H., Leigh, J., Johnson, A., Renambot, L., Case Study – Designing An Advanced Visualization System for Geological Core Drilling Expeditions, Proceedings of SIGCHI conference on human factors in computing systems, 2010, Atlanta, Georgia, April, 2010
- [3] **Chen, Y.C.**, Lee, S., Hur, H., Leigh, J., Johnson, A., Renambot, L., Design an Interactive Visualization System for Core Drilling Expeditions Using Immersive Empathic Design Method, Proceedings of SIGCHI conference on human factors in computing systems, 2009, Boston, Massachusetts, April, 2009
- [4] Rao, A., **Chen, Y.C.**, Lee, J., Leigh, J., Johnson, A., Renambot, L., Corelyzer: Scalable Geologic Core Visualization Using OS X, Java and OpenGL, Apple WorldWide Developers Conference, San Francisco, CA, 2006
- [5] Chen, S.H., Shiau, J.H., Huang, K.L., **Chen, Y.C.** and Wu, J.H., “Distributed Simulation Environment and Analysis Tools (SEAT) on Internet”, NCHC-iHPC Conference, 2001
- [6] Chou, H.L., Chen, Z., **Chen, Y.**, 3D Plane-Based Reconstruction from Uncalibrated Images, IEEE IPPR Conference on Computer Vision Graphics and Image Processing, 2000
- [7] **Chen, Y.C.**, Huang, K.C., Liao, Y.C., Liao, C.Z. and Wang, F.J., “Concurrent Computing for Interaction-Sensitive Software Systems”, Internet98, 1998

Press

“Drilling for Insight in Antarctica – Polar Expeditions Shed Light on Global Warming”, Apple Science Profile, Aug 2007. (<http://www.apple.com/science/profiles/andrill/>)

“Getting to core of the problem”, Chicago Sun-Times, November 28, 2007