Beifang Yi

71 Boston St.
Salem, MA 01970

Phone (office): **(978) 542-7426**
Email: **byi@salemstate.edu**
Homepage: **http://cs.salemstate.edu/~b_yi/**

EDUCATION

Ph. D., Computer Science and Engineering, 05/2006
University of Nevada, Reno
M.S., Computer Engineering, 08/2003
University of Nevada, Reno
M.S., Computer Science and Engineering, 10/1986
Southwest Jiaotong University, China
B.S., Automation (Computer Application), 08/1983
Southwest Jiaotong University, China

TEACHING EXPERIENC

09/2008—present: Salem State College, assistant professor
(http://cs.salemstate.edu/~b_yi/)

- CSC200A: Computer Science Survey I. 2008/2009 Falls, 2009 Spring
- CSC201J: Software Design and Programming I (Java). 2009/2010 Springs
- CSC202J: Software Design and Programming II (Java). 2010 Fall
- CSC215: Computer Science Survey II. 2008 Fall, 2010 Spring
- CSC280: Operating System Principles. 2008/2009/2010 Falls
- CSC340: Artificial Intelligence. 2010 Fall
- ITC100: Computers and Their Uses. 2009 Spring

08/2006—8/2008: SUNY-Fredonia, visiting assistant professor
(http://www.cs.fredonia.edu/b_yi/)

- CSIT 104/Introduction to Microcomputer Software: an introductory course for non-CS majors, 2006 Fall.
- CSIT 105/Visual Basic Programming I: 2006/7 Falls, 2007/8 Springs.
- CSIT 205/Visual Basic Programming II: 2007 Summer, 2008 Spring.
- CSIT 312/Computer Structures: 2007 Spring.

- CSIT 425/Software Engineering: 2006/7 Falls, 2008 Spring.
- CSIT 461/Artificial Intelligence: 2007 Spring.
- CSIT 462/Computer Graphics: 2007 Fall.
- CSIT475/E-Commerce: 2008 Spring.

08/2001—12/2005: University of Nevada, Reno (UNR), teaching assistant/instructor

- *Teaching assistant* for CS 791A, "Topics on Advanced Graphics", an upper level graduate course on graphics: designed and wrote part of the course lectures, installed and tested graphical library toolkit, delivered lectures, and provided assistance on students' projects. **http://www.cse.unr.edu/~b_yi/coin3d/**. 2004 Summer and 2005 Fall.
- *Instructor* for CS/EE 236 Lab (current CpE 201), "Introduction to Computer Science & Engineering": designed and wrote lab manuals, delivered lectures and supervised lab experiments, graded lab reports, and held office hours. 2004 Fall and 2005 Spring.
- *Teaching assistant* for CS 202, "Computer Science II", an advanced C++ programming course in Linux operating system: graded homework and exams, delivered lectures, and provided lab assistance. 2004 Spring.
- *Teaching assistant* for CS 467/667 (current CS 456/656), "Theory of Computation", an upper level undergraduate and lower level graduate course: graded homework and exams, served as substitute lecturer, and held office hours. 2003 Spring.
- *Teaching assistant* for CS/EE 336 (current CpE 301), "Microprocessor Engineering": graded quizzes and exams, held office hours, and conducted individual student conferences. 2002/03 Falls.
- *Teaching assistant* for CS 434/634 (current CpE 406/606), "Real Time Computing Systems", an upper level undergraduate and lower level graduate course on real time languages and operating systems: graded home work, tested and graded course projects, provided lab assistance, and held office hours. 2002 Spring.
- *Teaching assistant* for CS/EE 236 (current CpE 201), "Introduction to Computer Engineering": graded home work and exams, held office hours, and conducted individual student conferences. 2001/02 Falls, 2002/03/04 Springs.

08/2000—12/2000: The University of Memphis

- *Lab instructor* for COMP 1900, "CS1: Introduction to Computer Programming": provided lab assistance, graded and tested lab reports.
- *Teaching assistant* for COMP 4002/6002, "Accelerated Computer Programming", an upper level undergraduate and lower level graduate course on programming of data structures and sort and search algorithms: graded homework and projects, and held office hours.
- *Teaching assistant* for COMP 4302/6302, "Internet Applications and Java Programming", an upper level undergraduate and lower level graduate course on

programming applications in Java and structure of the Internet and client-server environment: graded home work and projects, and held office hours.

PROFESSIONAL EXPERIENCE

2002, 2003, 2004 summers: University of Nevada, Reno

Research assistant: Worked on a NASA-funded project *Development of a Nationally Competitive Program in Computer Vision Technologies for Effective Human-Computer Interaction in Virtual Environment*:

- Constructed 3D human hand model with graphical libraries.
- Applied hand constraints to the model in order to generate natural gestures.
- Designed and implemented graphical user interface to expand the software to a hand gesture visualization platform and testbed.
- Designed and embedded an inner database to allow generation of hand gestures and animations in real time.

12/2000—08/2001: University of Nevada, Reno

Research assistant: Developed and implemented computer vision and image processing techniques for an AFOSR project *Monitoring Human Fatigue Using Computer Vision*, specific work including eye/gaze tracking and interpretation with the use of infrared illumination.

06/1986—07/2000: Major Bridge Reconnaissance & Design Institute, Wuhan, China

Computer/network administrator, computer/software engineer:

- Served as system administrator and network engineer for the computer center, hardware consisting of more than 100 PCs and several SGI workstations and plotters, software including Window (NT) and Irix (Unix) operating systems, Microsoft Office/VB/VC, AutoCAD.
- Designed and implemented bridge modeling, simulation, and animation.
- Advised on the use of the computer software and applications
- Engaged in the development of bridge CAD software and provided technical support in the developing process.
- Performed training to engineers by teaching computer architecture and operating system courses and offering assistance in English learning.
- Enrolled in Microsoft Certificate System Engineer (MCSE) training courses.
- Pioneered in the construction of the institute's Intranet and Internet website (http://www.brdi.com.cn).

SKILLS

Computer hardware and software packages:

- Hardware: PC, SGI, Sun.
- Operating systems: Windows (Vista, XP, NT), Unix/Linux.
- Graphical libraries: OpenGL, Open Inventor.
- Visualization/Graphics toolkit/library: VTK.
- Parallel distributed computing MPI (Message Passing Interface).
- Graphical User Interface tool/library kits: Qt, GTK+.
- Computer vision and image processing library toolkits: OpenCV, CVIPtools.
- Miscellaneous: Matlab, Window Office, OpenOffice, KDevelop, Visual Studio 2005.

Programming languages:

- VB, C/C++, Java, Perl, PHP/HTML, Tcl/Tk, Python.
- 8086 and 8051 assembly languages.
- (previous work with Algol 60, Pascal, Lisp, Microsoft's VC).

Natural languages:

- Chinese (native), English, French (knowledgeable) and Japanese (knowledgeable).

AWARDS

- Instructional Incentive Award ($750.00) for developing a new multimedia course for both CS and non-CS majors (SUNY-Fredonia, 2007).
- ISCA/CATA 2006 Best Paper Award (2006, Seattle, WA).
- $16,110.00 (Co-PI) NSF EPSCoR Development Support Grant for developing an interdisciplinary course, *Scientific Visualization*, at the undergraduate and graduate levels (UNR, 2005).
- University Teaching Recognition Award (UNR, 2005).

SERVICES

- Journal CiSE (Computing in Science & Engineering) Reviewer (http://www.computer.org/portal/web/cise/home)
- Program Committee for **ISVC2010** (**International Symposium on Visual Computing**) (http://www.isvc.net/**)**
- Program Committee for **CAINE 09** (**Computer Applications in Industry and Engineering**) (http://www.cs.siu.edu/~dche/CAINE09/)
- Paper review for ***International Journal of Imaging*** (http://www.ceser.res.in/iji.html)

- Program Committee for **SEDE-2009** (**Software Engineering and Data Engineering**) (http://sce.cl.uh.edu/sede09/program_committee.html)
- Computer Science **Programming Club** (http://cs.salemstate.edu/~b_yi/progClub/ as faculty advisor, Computer Science Department, Salem State College. **2010-present**)
- Computer Science **Curriculum Committee** (Computer Science Department, Salem State College. **2008-present**)
- SOAS **Strategic Planning Committee** (School Of Arts and Sciences, Salem State College. **2008-present**)
- Program Committee for **ISVC08** (**International Symposium on Visual Computing**) (http://www.isvc.net/**)**
- Program Committee for **ISCA/CAINE 2008** (**International Conference on Computers And Their Applications**) (http://www.isca-hq.org/CAINE-2008-PROGRAM.pdf)
- Computer Information Science **Curriculum Committee** (CS/CIS Department, SUNY-Fredonia, 2007-2008)

PUBLICATIONS

Journals:

- Yongmian Zhang, Qiang Ji**,** Zhiwei Zhu, and **Beifang Yi**. "Dynamic Facial Expression Analysis and Synthesis with MPEG-4 Facial Animation Parameters", *IEEE Transactions on Circuits and Systems for Video Technology* (CSVT), October, 2008, Volume 18, Issue 10, pp. 1383-1386.
- **Beifang Yi**, Frederick C. Harris, Jr., Ling Wang, and Yusong Yan, "Generating Natural Hand Gestures in Real Time*", IEEE Computing in Science and Engineering* (CiSE), May/June, 2005, pp. 92-97.
- **Beifang Yi**, Frederick C. Harris, Jr., Sergiu M. Dascalu, and Ali Erol, "User Interface Aspects of a Human-Hand Simulation System", *Journal of Systemics, Cybernetics and Informatics*, 2005, Volume 3, Number 5, pp. 77-83.

Conferences:

- **Beifang Yi**, Frederick C. Harris, Jr., and Sergiu M. Dascalu, *"*vHand, a Human Hand Simulation System*", ISCA 21st International Conference on Computers and Their Applications* (CATA 2006), March 23-25, 2006, Seattle, Washington. Received the **only** conference **Best Paper Award** (**http://www.isca-hq.org/CATA-2006-Pictures/target44.html**).
- **Beifang Yi**, Frederick C. Harris, Jr., and Sergiu M. Dascalu, "From Creating Virtual Gestures to 'Writing' in Sign Languages", *Conference on Human Factors in Computing Systems* (CHI 2005), April 2-7, 2005, Portland, Oregon.

- **Beifang Yi**, Frederick C. Harris, Jr., and Sergiu M. Dascalu, "A Visualization Tool for Displaying Hand Gestures", *20th International Conference on Computers and Their Applications* (CATA 2005), March 16-18, 2005, New Orleans, LA.
- **Beifang Yi**, Frederick C. Harris, Jr., Sergiu M. Dascalu, and Ali Erol, "User Interface Aspects of a Human-Hand Simulation System", *Proceedings of the International Conference on Education and Information Systems, Technologies and Applications* (EISTA 2004), July 21-25, 2004, Orlando, FL. Received **Best Paper Award** in the session *Simulation in Training and Education***.**

Presentations/Talks:

- March 2010, Salem State College. "What is Going on Deep Inside the Computer?"
- March 2007, SUNY, Fredonia. "Computer Graphics and HCI for Sign Language Interface."

Technical reports:

- **Beifang Yi**, "Hand Visualization and Testbed" (a NASA project progress report), University of Nevada, Reno, Computer Science Department, April, 2003.
- **Beifang Yi**, "A Survey of Vision-Based Human-Computer Interactions", University of Nevada, Reno, Computer Science Department, August, 2001 (**78 pages**, **http://cs.salemstate.edu/~b_yi/RActivities/HCI/visionHCI.pdf**).
- **Beifang Yi**, Rong Hu, and Zhiwei Zhu, "A Real-Time Tracking System with the Use of Fuzzy Logic Methods", University of Nevada, Reno, Computer Science Department, May, 2001.

Work in progress:

- Toward the Creation of Sign Language Interfacing Platform: using the latest development of computer graphics to implement a sign language interfacing system which can be used to construct a dictionary in any specific sign language, to create the sign language sentences based on the dictionary. The work is a continuation of my PhD work.
- Teaching Computer Graphics and Information Visualization in Four-Year Colleges: computer graphics and visualization, one of the most important modern computer-related subjects and research areas, has been applied in more and more different disciplines. But not many four-year colleges have not opened a right course in the computer graphics and information visualization, while many other universities cover this area in two or three different courses because of the theoretical challenges and practical nature. I am planning on developing one course that will focus on the application while introducing the theoretical background.

MEMBERSHIP

Association for Computing Machinery (ACM)
Institute of Electrical and Electronics Engineers (IEEE)

INTERESTS

- *Research*: HCI (human-computer interactions),computer graphics, UI (user interface) design, software engineering, visualization, programming, computer vision and image processing, genetic algorithms.
- *Non-research*: Chinese classic poems, philosophy of language, linguistics, philosophy of mind, Gödel, mind-body problem, cognitive psychology, Shakespeare, Brontës, Tagore, Gibran, Camus, London, and modern English short writings.