Ang Lee

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Education

8/04-present Georgia Institute of Technology, Atlanta, GA
Master of Science, Computer Science, degree expected 5/06 (GPA 3.83)

- Specialization: Computer Graphics & Human Computer Interaction.
- Earned Graduate Certificate in Cognitive Science.
- Affiliated to Computational Perception Laboratory directed by Prof. Irfan Essa.

9/98-6/02 National Taiwan University (NTU), Taipei, Taiwan
Bachelor of Science, Electrical Engineering (Upper division work* GPA 3.96)

- Developed a Bluetooth wireless system providing wearable computing in integral rescue schemes.
- Made fly through and walk through animations from a single large landscape painting.

Technical Summary

Language: C/C++, Java, Matlab, JavaScript, HTML, Assembly, VHDL.
API: OpenGL, OpenCV, MXR Toolkit, Win32
Software: Maya, 3ds max, Premiere, After Effects, Photoshop.

Work Experience

1/05-present Leica Geosystems, Norcross, GA
Software Engineer (Co-op), Image processing

8/05-12/05 College of Computing, Georgia Institute of Technology, Atlanta, GA
Teaching Assistant (Prof. Jarek Rossignac / Computer Graphics)

10/02-5/04 14th Tactical Fighter Squadron, R.O.C. Air Force, Chiayi, Taiwan
2nd Lieutenant, Political Warfare Officer

9/01-6/02 National Taiwan University, Taipei, Taiwan
Research / Teaching Assistant (Prof. Tung-Xiung Wu / Media Design & Management)

9/00-6/02 Computer & Information Network Center, NTU, Taipei, Taiwan
Paid Part-time Student Programmer

6/00-9/00 Far East Telecom Co., Ltd. (AT&T Taiwan), Taipei, Taiwan
Summer Intern

Publication

Shun-Chuan Chen, Hsuan-Wei Chen, **Ang Lee**, Kuo-Hao Chao , Yu-Cheng Huang and Feipei Lai, "E-Vanguard for Emergency - A Wireless System for Rescue and Healthcare," 5th International Workshop on Enterprise Networking and Computing in Healthcare Industry, Santa Monica, USA, Jun. 2003

Translation (English to Chinese)
Massachusetts Institute of Technology (MIT) Open Course Ware:
MAS.110 Fundamentals of Computational Media Design
MAS.630 Affective Computing
MAS.963 Ambient Intelligence

*Upper division work: Last 2 year major GPA, based on 67 credits

Projects URL: http://www.cc.gatech.edu/~coolpix/proj/

Magic Brush (2005)
Instructor: Prof. Irfan Essa
This project aims to assist people who don't have drawing expertise to share the beautiful pictures in their mind. This is achieved by letting users exploit existing style, color brush, pattern present in thousands of master pieces or photo. Issues including Non-Photorealistic Rendering, Texture synthesis, Color transfer, Segmentation are discussed.

Polyloop Smoothing (2005)
Instructor: Prof. Jarek Rossignac
Planar curves may contain undesired noises or details. The project explores the smoothing technique involving moving position of sample points along the curve. Naive techniques usually reduce the area enclosed by the curve. Several smoothing techniques are introduced and discussed. Finally, we proposed an approach named "Anglee" which is designed to filter out high frequency noise while the low frequency portion and the area enclosed are preserved.

Digital Video Special Effect (2005)
Instructor: Prof. Irfan Essa
Fancy movie effects have been created. For the final production, together with two teammates, I went through the whole process of film production. Our effect was like the one in HP's well-known commercial picture book but funnier.

AGORA (2004)
Instructor: Prof. Colin Potts
A project completed with a student from department of architecture. The goal is to assist residents of a community in the processes of selecting a new community building which involves communicate with architecture companies. An innovative system was designed and prototyped to help users understanding the 3D model and other information provided by architects. System has been evaluated through human-involved tests.

Animating Chinese Landscape Painting (2002)
Instructor: Prof. Ming Ouhyoung
Utilize IBMR (Image-based modeling and rendering) approaches for making fly-through and walk through animations from a single large landscape painting or panorama. The result animation demonstrates the characteristics of traditional Chinese landscape painting including the use of abstraction. e.g. spiritual journey and moving-point perspective

EVE (E-vanguard for Emergency) (2002)
Instructor: Prof. Feipei Lai
Project aims to provide a way to accomplish an integral rescue scheme. The system composed of a rescue command post, rescuers, first aiders, and detecting sensors for injured. Each part is well functioned and communicates with all the others using Bluetooth. They are wearable systems with sensors created in a rescuer coat.

Blue Genius (2001)
Instructor: Prof. Feipei Lai
A toolkit that offers simple-to-use APIs and platform to utilize Bluetooth was designed. Two delicate car robots were assembled from scratch to demonstrate the toolkit. During demonstration, the two car robots can response to our commands and communicate with each other via Bluetooth. Project Ended winning 5th place in IEEE Computer Society International Design Competition World Finals, Washington DC, 2001.

Minor Projects in Graphics completed:
Patina weathering using Gamma-ton tracing (paper from SIGGRAPH 2005)
Ray tracing
OpenGL 3D viewer
Voronoi diagrams with graphics hardware
Shadow volumes using stencil buffers
T-mesh editor
T-Mesh subdivision and smoothing
Image quilting and transfer (paper from SIGGRAPH 2001)

Minor Projects in Vision completed:
Illumination subspace of images
Feature matching for location/object recognition
Making a Quicktime VR movie using SIFT and RANSAC
Dual Photography (paper from SIGGRAPH 2005)

Selected courses URL: http://www.cc.gatech.edu/~coolpix/courses.htm

Project credits
- Master's Project (GaTech/ Fall 2005/ Dr. Irfan Essa)
- Special Problems (GaTech/ Summer 2005/ Dr. Irfan Essa)
- Special Problems (GaTech/ Spring 2005/ Dr. Blair MacIntyre)
- Special Project (NTU/ Fall 2000, Spring, Fall 2001, Spring 2002/ Dr. Feipei Lai)
- Special Project (NTU/ Fall 2001, Spring 2002/ Dr. Ming Ouhyoung)

Computer Science
- Advanced Computer Graphics (GaTech/ Fall 2005/ Dr. Jarek Rossignac)
- Computer Vision (GaTech/ Fall 2005/ Dr. Frank Dellaert)
- Digital Video Special Effect (GaTech/ Spring 2005/ Dr. Irfan Essa)
- Computer Graphics (Gatech/ Spring 2005/ Dr. Andrzej Szymczak)
- Computer Graphics (NTU/ Fall 2001/ Dr. Ming Ouhyoung)
- Virtual Reality (NTU/ Spring 2002/ Dr. Ming Ouhyoung)
- Computer communication networks (NTU/Fall 2002/ Dr. Wu, Jingshown)
- Introduction to Computer Networks (NTU/ Fall 2000/ Dr. Zsehong Tsai)
- Computer architecture
- Object-Oriented Software design
- Algorithm
- Data structure
- Computerized editing
- Computer programming

Psychology
- Colloquium in Cognitive Science (GaTech/ Fall 2005)
- Introduction to Cognitive Science (GaTech/ Spring 2005/ Dr. Ashok Goel)
- Engineering Psychology I: Methods (GaTech/ Fall 2004/ Dr. Gregory Corso)
- Human-Computer Interaction (GaTech/ Fall 2004/ Dr. Colin Potts)
- General Psychology (NTU/ Spring 2001/Dr.Lin,Yi-Cheng)

Electrical Engineering:
- Control Systems (NTU/ Spring 2001/ Dr. Yung-Yaw Chen)
- Principle of communication (NTU/ Spring 2001/ Dr. Yumin Lee)

Signal and system (NTU/ Fall 2000/ Dr. Lin-shan Lee)
Introduction to Digital Signal Processing (NTU/ Spring 2001/ Dr. Soo-Chang Pei)
Switching circuit and Logic design (NTU/ Fall 1998/ Dr. Liang-Gee Chen)
Integrated circuit design (NTU/ Fall 2001/ Dr. Tzi-Dar Chiueh)
Introduction to Power electronics (NTU/ Spring 2001/ Dr. Chern-Lin Chen)
Power systems (NTU/ Spring 2001/ Dr. Yuan-Tih Hsu)
Electric circuits I, II
Electromagnetics I, II
Electronics I, II, III

Advanced Labs
Microprocessor (NTU/ Spring 2001/ Dr. Gwo-Jen Jan)
Digital circuit (NTU/ Fall 2001/ Dr. Tzi-Dar Chiueh)
Networking and multimedia (NTU/ Spring 2002/ Dr. Wanjiun Liao)

Engineering Mathematics
Statistical Modeling and Regression Analysis (GaTech/ Fall 2004/Dr. Kwok-Leung Tsui)
Linear Algebra
Complex variables
Probability
Differential Equation
Calculus I, II

Others
Aesthetic boundaries of contemporary Taiwan Cinema

Activities

9/00 - 6/01	Student Representative College of Electrical and Computer Engineering, National Taiwan Univ.
9/00 - 6/01	Captain Taekwondo School Delegate team, National Taiwan Univ.
6/99 - 6/02	Leader of academic section Chinese Qui-Yi Art Club, National Taiwan Univ.
6/99 - 7/99	Delegate of Taiwan Delegation Future Leader Summit, Washington DC, USA

Membership

member	IEEE
member	ACM / SIGGRAPH
founding member	Pastel Art Association ROC
member	IBM (International Brotherhood of Magicians)

Certificates

Taekwondo international certificated Black belt 3rd don
Certificated water-saving lifeguard