

# Riva Yu-Hsin Chang

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- OBJECTIVE** To obtain a full time job as a programmer/technical director in entertainment industry.
- EDUCATION**
- Carnegie Mellon University(CMU)** Expected May 2009  
*Master of Entertainment Technology (ETC)*  
An interdisciplinary program jointly conferred by Fine Arts and School of Computer Science.
- National Taiwan University (NTU), Image and Vision Laboratory** 2005 - 2007  
*Master of Computer Science and Information Engineering (CSIE)*  
The IVLab is dedicated to research and projects that related to image/video processing, computer vision, and pattern recognition.
- National Taiwan University (NTU)** 2001 - 2005  
*Bachelor of Computer Science and Information Engineering (CSIE)*
- WORKING EXPERIENCE**
- Intern Game Engineer in Schell Games, Pittsburgh** Summer 2008
- Developed Wii-game prototypes using Gamebryo and Nintendo Wii Development Kit.
  - Enhanced and modified an in-house game engine for multi-platform(DS/Wii) purpose.
- Teaching Assistant of Digital Image Processing in CSIE, NTU** Fall 2005
- Guide and grade students on their course work.
- RELATED COURSES**
- Carnegie Mellon University*
- The Animation of Natural Phenomena 2008**, Advisor: Adrien Treuille.
- Implemented particle systems with constraints, cloth and cloth collision, fluid system.
  - Course topic also includes rigid bodies dynamics, deformable objects and human animation.
- Computational Photography 2008**, Advisor: Alexei Efros.
- Implemented content aware image resizing.
  - Topic includes image morphing, image stitching and single view reconstruction
- Computer Graphics 2008**, Advisor: Nancy Pollard.
- Implemented a recursive ray-tracer which supports shadows, refraction, texture mapping and anti-aliasing.
- Building Virtual World 2007**, Advisor: Jesse Schell.
- Game mechanism/interface programmer.
  - Particle effect designer and shader writer.
- National Taiwan University*
- Digital Visual Effects 2005**, Advisor: Yung-Yu Chuang.
- Implemented image morphing and panorama stitching
  - Using structure from motion technique and Blender3D to produce a short effects movie.
- Net Art 2006**, Advisor: Xiaoniu Su-Chu Hsu.
- Use new media/technology to represent art concept.

**PUBLICATION** ”QPalm: A Gesture Recognition System for Remote Control with List Menu”,  
Yu-Hsin Chang and Li-Wei Chan et al. 2006 - 2007 in CSIE, NTU  
In *IEEE International Conference on Ubi-media Computing(U-Media), July 2008*

- User palm detection and gesture recognition system designer/programmer.
- Created an interface which allows users to control a list menu remotely by hand gesture.

**PROJECTS** **Graphics and AI Programmer, Project See-Saw** Spring 2009 in CMU ETC

- Developed an effects system workflow for games which developers can create effects by simply scripting and using tools.
- Project See-Saw aims at solving the balancing problem in a player-skill based game, particularly for MMORPG.

**RFID System Programmer, Project Interstellar Overdrive** Fall 2008 in CMU ETC

- Created a RFID greeting system which welcomes people with voice. The script varies according to the identification of the guests, time, and special events of the day.
- Cooperated with Virtual Devices Inc. to install projected touch panel in ETC.

**Software Engineer, Project Classroom of the Future** Spring 2008 in CMU ETC

- Developed a note taking software for students to use in class. It allows students to take note along with slides and publish their note on ipod.
- This project aimed at designing a future classroom, including researching on existing products and making prototypes (hardware/software) of future classroom.

**Gesture Recognition Programmer, Project Conductor** 2006 - 2007 in NTU CSIE

- Captured and analyzed users gesture in order to control volume and speed of music and video.

**Object Tracking Programmer,**

**Immersive Chinese Painting: The Ten Gibbons** 2004 - 2005 in NTU CSIE

- An interactive game which allows guests to interact with the monkeys on the seamless multi-projected screen by using a physical banana.

**ACTIVITIES** **Vice-Chair**, CSIE Council, National Taiwan University 2003 - 2004

NTU CSIE volleyball Team player 2003 - 2007

**SKILLS**

**Programming Languages:** C/C++, Python, C#, VB.Net, Java, SQL

**Software/Library/OS:** MS.Net, openCV, OpenGL, PhotoShop, Windows, Linux

**Game Engine:** Panda3D, Ogre3D, Gamebryo

**Language:** Spoken/written English and Chinese/Mandarin