Tian Zhu

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EDUCATION

Bachelor of Science in Computer Science and Technology   Sep.2007 – June.2011

Northwestern Polytechnical University (China)

Ranking: 5/174 GPA: 88%

Master of Science in Computer Science (Game Development)   Aug.2011 – May.2013

University of Southern California

GPA: 3.75/4.0

Ph.D. in Computer Science   Aug.2013 – Present

University of Southern California

WORKING EXPERIENCE

Internship in Xi'an Xiyou Shuangwei Communication Technology Corporation

July 2009 – August 2009

- Video conferencing multipoint control unit development project. Responsible for Remote Camera Control module based on protocol H.281 by using C/C++.

Internship in Xi'an Future International Software Corporation

July 2010 – August 2010

- Worked in the population database application project team. Responsible for front-end web development.

PROJECT EXPERIENCE

Voice Garden

August 2012 – present

- A mobile game based which utilizes the theory of narrative therapy. Player will use his voice and sound to play this game. The goal of this game is to help people relieve stress and help people to communicate with others. Demo

Sniper Squad: Warfigher

August 2012 – December 2012

- First-Person Shooter (FPS) game using "Dual World" interaction system. This system including PS MOVE, Head-Mounted Projector and SONY HMZ-T1 Head-Mounted Display (HMD). Demo1, Demo2

Dark Core

December 2012 – May 2013

- 3D action games, including both 2D and 3D gameplay, made by Unreal Engine 3 on PlayStation Vita.
- Main task is to design and implement enemy AI, and optimize performance and visual effect on Vita.

Homeward

January 2013 – August 2013

- Homeward is a platformer+puzzle game made in Unity 3D that embeds strong narrative about our concern for humanity and environment. [Demo](#)
- Responsible for gameplay engineering, AI engineering and audio engineering.

Robot Race

August 2013 – Present

- A Mario-Cart-Like robot racing game on iOS and Android. [Link](#)
- Responsible for localization, UI engineering, GameCenter/Google Play integration. Managing current update of the game.

RESEARCH EXPERIENCE

Moving Sound Simulation

February 2011 – May 2011

- Research project in Shaanxi Provincial Key Laboratory of Speech and Image Information Processing in Northwestern Polytechnical University (China) under the advisement of Prof. Zhonghua Fu.
- Simulate moving sound based on HRTF (Head-Related Transfer Function). Moving effect, Doppler Effect and reverberation can be added to a static sound source to give listener a realistic experience. [Demo](#)

Kinect and Hand Tracking

January 2012 – May 2012

- Directed research with the Medical VR Group at the Institute for Creative Technologies in USC.
- Use Kinect to track hand gesture and finger movement, to help physically challenged people. [Demo](#)

Human-Robot Interaction

May 2012 – May 2013

- Research project in USC Interaction Lab with the supervision of Ross Mead under the advisement of Prof. Maja J Matatric.
- Build robot acoustic and gesture proxemics models based on theories in spatial hearing and speaking, and data collected from human-human and human-robot interaction, which helps robot improve speech recognition and production.
- Develop a speech recognition package on ROS (Robot Operating System) based on SPHINX from CMU.

HONOR/AWARDS

- National Scholarship, 2007-2008 Academic Year, (awarded to top 3%)
- The First Prize Scholarship, Northwestern Polytechnical University, 2007-2008, 2008-2009 & 2009 – 2010 Academic Years (awarded to top 15%)
- Special Scholarship of Zhongxing Telecom Equipment (ZTE), Northwestern Polytechnical University, 2008-2009 Academic Year, (awarded to top 5%)

Publication

- Zhong-Hua Fu, Tian Zhu, "Moving Sound Image Rendering in Realistic Audio Effects", The 2011 Sino-foreign-interchange Workshop on Intelligence Science and Intelligent Data Engineering (IScIDE 2011), Xi'an, China, 2011. [Link](#)