Po-Cheng **Pan**

(+1) 512-550-9040 | ahpan0713@utexas.edu | Tomoyokyou | PoChengPan0713

Education

The University of Texas at Austin, TX, U.S.A. *Aug. 2016 - Now*

M.S. in Computer Science

National Taiwan University, Taipei, Taiwan *Sep. 2011 - Jun.2015*

B.S. in Electric Engineering- **GPA: 3.93** *(*:graduate-level courses)*

- Got **Presidential Award three times** which is awarded to students ranked top 5% in their departments
- Selected Courses: The Design and Analysis of Algorithms*, Digital Visual Effects*, Multimedia Signal Processing*, Machine Learning and Having it Deep and Structured*, Data Structure and Programming

Skills

Programming Languages C/C++, Matlab, Java, Python, Objective-C, UNIX shell script, LaTex

Tools OpenCV, Kaldi, CUDA, Blender 3D

Work Experience

Research Assitant, Research Center for IT Innovation, Academia Sinica, Taiwan *Mar. 2014 - Jun. 2015*

- Proposed a novel approach to enhance images' aesthetic by automatically altering the composition and aspect ratio of the input image according to a reference image without pre-collected data or predetermined aesthetics rules
- Built an image emotion classifier by combining Gaussian Mixture Model with Bag of Words, achieving ~50% accuracy on IAPS datasets

Projects

Automatic Speech Recognition System (C/C++, CUDA, Kaldi) *Mar. 2015 - Jul. 2015*

- Implemented a deep neural network and N-best Viterbi algorithm to get n-best phone sequences and used Weighted Finite State Machine to decode them into word sequences
- Built a Recurrent Neural Network Language Model to rescore all possible word sequences to get the best one

Special Effect Film (Blender3D) *Mar. 2015 - Jul. 2015*

- Created 3D models by Blender3D and used match moving to insert them into live-action footage

Query-by-Singing/Humming System Based on Dynamic Programming (Matlab) *Sep. 2014 - Jan. 2015*

- Implemented a system based on pitch tracking and dynamic time warping that allows users to find a song from music databases by singing or humming a short snippet of the song, which achieves accuracy ~90%

Functionally Reduced And-Inverter Graph (C++) *Sep. 2013 - Jan. 2014*

- Implemented optimization techniques to reduce the digital circuit size and simulation time by finding functionally equivalent candidate (FEC) pairs in C++

Research and Laboratory Experience

Local Contrast Preserving Decolorization (Advisor: Prof. Shao-Yi Chien, NTU) *Sep. 2014 - Jul. 2015*

- Proposed a color-to-gray transformation approach that enhances the original luminance contrast, especially salient parts of images.
- Increased color contrast preserve ratio by 5% over other methods

Mac Remoter (Advisor: Prof. Tsung Nang Lin, NTU) *Sep. 2014 - Jan. 2015*

- Developed an App on iPad that allows users to remotely control the MacBook as a Magic Trackpad
- Used the gyroscope inside iPad to turn it into a steering wheel for playing racing games

Wireless Audio Pitch Shifter (Advisor: Prof. Ping-Cheng Yeh, NTU) *Sep. 2014 - Jan. 2015*

- Implemented a phase vocoder in Matlab for shifting the pitch of voice in real-time
- Built communication between two radio wave transceivers to transmit audio signal wirelessly by LabVIEW

Publication

R2P: Recomposition and Retargeting of Photographic Images *Oct. 2015*

- Hui-Tang Chang, **Po-Cheng Pan**, Yu-Chiang Frank Wang and Ming Syan Chen, **ACM Multimedia Conference 2015**