Zhao Fu | Resumé for Internship

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Education

University of Michigan *M.S.E. Degree in CSE* — Ann Arbor, *2015–Present*

Tsinghua University *B.E. Degree in CS, GPA 3.83(Rank: 18/123)* — Beijing, *2011–2015*

Project Experience

AhhFace APP *(Algorithm Designer)* — **Beijing**

This App can let people play with their faces in different ways. *Jan 2015–Present*

- Developed face morphing algorithm with freely created face templates.
- Designed algorithm for face-background fusion and head replacement.
- Implemented in GLSL to speed up.

Department of Competition in Student Association for Science and Technology *(Member and VP)* — **Tsinghua University**

This department is for developing game engines for Sougo Cup AI Competitions. *Jun 2012–Jun 2014*

- Developed the logic kernel in C++ for the competition held in 2013.
- Led team members to develop the whole game engine for next year's competition as a VP.

Kinect Based Interactive Game *(Course Project for Multimedia Technologies)* — **Tsinghua University**

Designed simple human action recognition methods with Kinect API in C# to control our game. *Jun 2014*

Never-Late Web App *(Hackathon Held by Facebook)* — **Singapore**

Developed an App for punishing the ones who are late for parties by updating something funny in their facebook. *Feb 2014*

Bomber-Android Version Game *(Course Project for Software Engineering)* — **Tsinghua University**

Developed a server-client model-based real time android game in Java. *Oct 2013–Jan 2014*

Research Experiences

Cluster Algorithm Improvement and CNN Pre-training — **Tsinghua University**

Mentor: Prof. Zhidong Deng *Jan 2015–Jun 2015*

- Designed evaluation algorithm for clustering result.
- The new algorithm can automatically choose cluster numbers.
- Learned to use Theano for building CNN.
- Developed SOM layer to pre-train the filters of CNN.

High-Order Aberration Correction for Human Eyes — **UC Berkeley**

Mentor: Prof. Brian Barsky *Jul 2014–Sep 2014*

- Designed effective optics experiments with camera and lenses for testing.
- Speeded up the original Matlab code for 30 times by optimizing through matrices operations.
- Improved both speed and precision of the model by reversing the calculating direction.

Interactive Image-Guided Modeling of Extruded Shapes — **Tsinghua University**

Mentor: Prof. Tao Ju and Prof. Shimin Hu *Mar 2014–Jun 2014*

- Estimated the relative position of cameras for different photos.
- Optimized the normal of planes based on 2D register with AMPL optimizaiton tools.

Video Plot Partitioning — **Tsinghua University**

Mentor: Prof. Mingxing Xu *Oct 2013–Jan 2014*

- Extracted features from both RGB channels and audio channel.
- Developed an algorithm to iteratively remove cuts and merge neighborhood periods.

Publication

Yan-Pei Cao, Tao Ju, Zhao Fu, and Shi-Min Hu. Interactive image-guided modeling of extruded shapes. In *Computer Graphics Forum*, volume 33, pages 101–110. Wiley Online Library, 2014.

Competitions & Awards

Top 25% (90/473) in KDD Cup 2014 competition *2014*

Top 8 in AI Competition of Sougou Cup in Tsinghua University *2012*

1st prize (Rank: 1) in Chinese Physics Olympiad Beijing and 2nd prize in CPhO final *2010*

1st prize in National Olympiad in Informatics in Province (NOIP), Senior Group *2009*

Profession Excellence Award in Tsinghua University(For ranking beyond 20% in CS Department as while as have a paper published) *2014*

Study Excellence Award in Tsinghua University(For ranking beyond 10% in CS Department) *2012*

Professional skills

Language: C++, Python, Matlab, Java

Knowledge: Machine Learning, 3D Modeling, Computer Vision

Technique: OpenCV, Theano, Torch, OpenFrameworks

Interests

Break Dance: As a member of the DK5 street dance club in Tsinghua University, performed several times in all kinds of activities, such as Student Festivals and New Year's Eve.

Starcraft: Won 2nd place in a competition held by CS department in Tsinghua University.