

Xiaoyuan Guo (郭孝园)

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Research Interests

Computer Vision:

3D reconstruction, Hole filling in point clouds, Hole filling in meshes, Object detection and recognition.

Computer Graphics:

Geometry analysis, Mesh model, Visualization

Education

University of Chinese Academy of Sciences

Beijing, China

- M.S. Industry Engineering

Sep. 2014 – Present

- GPA: 83/100, Rank: 5%

- Advisor: Prof. Jun Xiao (School of Engineering Science, University of Chinese Academy of Sciences)

Tianjin University of Technology

Tianjin, China

- B.E. Information Security

Sep. 2010 – Jun. 2014

- GPA: 3.8, Rank: 2%

- Advisor: Prof. Sheng Lin (School of Computer and Communication Engineering, Tianjin University of Technology)

- Thesis: The Research and Application of an Algorithm for Graph Isomorphism

Research Experience

Hole Filling Algorithm in Point Clouds

School of Engineering Science,

University of Chinese Academy of Sciences

Engineering Computing Center

- May. 2016 – Present

- Working for an effective algorithm for filling holes in point clouds, especially for the scanned terrain point clouds.
- Participated in the research on registration of point clouds.

Hole Filling in Meshes

School of Engineering Science,

University of Chinese Academy of Sciences

Engineering Computing Center

- May. 2016 – Sep. 2015

- Proposed possible improvements of mesh hole filling techniques and worked for improving a mesh hole filling algorithm.
- Analyzed several important algorithms of filling holes in meshes and compared their performances on the same input data sets.

Face Detection of Images

School of Engineering Science,

University of Chinese Academy of Sciences

Engineering Computing Center

- Sep. 2016 – Jan. 2016

- Learnt about classic methods of detecting face in innumerate images.
- Made a conclusion of the classic methods of face detection and co-proposed an algorithm to detect face by aggregating visible components.

3D Reconstruction from Point Clouds

School of Engineering Science,

University of Chinese Academy of Sciences

Engineering Computing Center

- Jan. 2016 – Sep. 2015

- Learnt about how to process point cloud data by using the programming library.
- Learnt about the basic knowledge of the reconstruction from point clouds and made an experiment to test some reconstruction techniques.

Publications

- **Xiaoyuan Guo**, Jun Xiao, Ying Wang. A survey on algorithms of hole filling in 3D surface reconstruction[J]// The Visual Computer,2016.
- Jiali Duan, Shengcai Liao, **Xiaoyuan Guo**, Stan Z. Li. Face Detection by Aggregating Visible Components. ACCV Workshop 2016.
- Jiali Duan, **Xiaoyuan Guo**, Stan Z. Li. Multi-Modality Fusion based on Consensus-Voting and 3D Convolution for Isolated Gesture Recognition. CVPR 2017. (submitted)

Activities

- Participated in China's 16th National Youth Robot Competition as a volunteer Jul. 2016
- Participated in the National Natural Science Foundation of China (NSFC) Sep. 2015 –Present

Awards and Honors

- Second Prize Scholarship in University of Chinese Academy of Sciences (Twice) Sep. 2015/2016
- National Scholarship of University of Chinese Academy of Sciences. (Top 2%) Sep. 2016
- Outstanding Volunteer of China's 16th National Youth Robot Competition Jul. 2016
- Merit Student (Top 3%) of University of Chinese Academy of Sciences. Mar. 2016
- Excellent Student Cadre (Top 1%), Merit Student (Top 3%) of University of Chinese Academy of Science Jun. 2015
- Excellent graduate (Top 2%) of Tianjin University of Technology Jun. 2014
- Excellent Student of Tianjin University of Technology Jun. 2014
- First Prize Scholarship in Tianjin University of Technology Oct. 2013
- National Encouragement Scholarship (Top 3%, nationwide, Three times) Oct. 2011/2012/2013
- Excellent League Member (Top 5%) Jun. 2012
- Second Prize Scholarship in Tianjin University of Technology (Twice) Oct. 2011/2012

Skills

- Programming: Proficient in C/C++, C#, Python;
- Experiential in Html, Java, Latex, OpenGL.
- Software: Visual Studio, Qt, Python 3.0, Photoshop.

Standardized Tests

- TOEFL: Reading 28, Listening 26, Listening 15, Writing 22, Total 91.
- GRE General: Verbal 148 (38%), Quantitative 168 (95%), Analytical Writing 3.5 (42%).