Miao Wang

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EDUCATION

- **Tsinghua University** — Beijing, China
  Ph.D. in Computer Science (with honors), advisor: Prof. Shi-Min Hu — *Sept. 2011 – Jul. 2016*

- **Xidian University** — Xi'an, Shaanxi, China
  Bachelor of Engineering in Computer Science and Technology (with honors) — *Sept. 2007 – Jul. 2011*

WORK & RESEARCH EXPERIENCE

- **Tsinghua University** — Beijing, China
  Postdoc Researcher — *Jul. 2016 – Oct. 2018*
  - **Visual Computing**: Computer graphics & computer vision projects, including interactive video editing, deep learning methodology in graphics, computational cinematography and video for VR, with Prof. Shi-Min Hu.

- **Cardiff University** — Cardiff, UK
  Visiting Researcher — *Aug. 2013 – Feb. 2014*
  - **Photo Extrapolation**: Worked on an image extrapolation project to expand the field-of-view of natural scenes using a data-driven method, with Prof. Ralph Martin and Dr. Yu-Kun Lai.

RESEARCH INTERESTS

Visual computing: interactive image and video editing, video for virtual reality, deep learning in graphics.

PUBLICATIONS

1. *Shu-Yang Zhang, Run-Ze Liang and **Miao Wang***.* ShadowGAN: Shadow Synthesis for Virtual Objects with Adversarial Networks. Computational Visual Media 2019, to appear.

2. ***Miao Wang**, Guo-Ye Yang, Jin-Kun Lin, Shao-Ping Lu, Ariel Shamir and Shi-Min Hu.* Deep Online Video Stabilization With Multi-Grid Warping Transformation Learning. IEEE Transactions on Image Processing, to appear. **(CCF-A)**

3. *Sen-Zhe Xu, Jun Hu, **Miao Wang**, Tai-Jiang Mu and Shi-Min Hu.* Deep Video Stabilization Using Adversarial Networks. Computer Graphics Forum, 37 (7), 267-276, 2018. (Pacific Graphics 2018) **(CCF-B)**

4. ***Miao Wang**, Ariel Shamir, Guo-Ye Yang, Jin-Kun Lin, Guo-Wei Yang, Shao-Ping Lu and Shi-Min Hu.* BiggerSelfie: Selfie Video Expansion with Hand-held Camera. IEEE Transactions on Image Processing, 27(12), 5854-5865, 2018. **(CCF-A)**

5. *Shao-Ping Lu, Jie You, Beerend Ceulemans, **Miao Wang** and Adrian Munteanu.* Synthesis of Shaking Video using Motion Capture data and Dynamic 3D Scene Modeling. IEEE ICIP 2018. **(CCF-C)**

6. ***Miao Wang**, Jun-Bang Liang, Song-Hai Zhang, Shao-Ping Lu, Ariel Shamir and Shi-Min Hu.* Hyper-lapse Creation from Multiple Spatially-overlapping Videos. IEEE Transactions on Image Processing, Vol.27, No.4, Pages 1735-1747, 2018. **(CCF-A)**

7. ***Miao Wang**, Xi-Jin Zhang, Jun-Bang Liang, Song-Hai Zhang and Ralph R. Martin.* Comfort-driven Disparity Adjustment for Stereoscopic Video. Computational Visual Media, 2(1), 3-17, 2016.

8. *Shao-Ping Lu, Sibo Feng, Beerend Ceulemans, **Miao Wang**, Rui Zhong and Adrian Munteanu.* Multiview Conversion of 2D Cartoon Images. Communications in Information and Systems, 16(4), 229-254, 2016.

9. ***Miao Wang**, Yu-Kun Lai, Yuan Liang, Ralph R. Martin and Shi-Min Hu.* BiggerPicture: Data-Driven Image Extrapolation Using Graph Matching. ACM Transactions on Graphics, 33(6), Article No. 173, 2014. (**SIGGRAPH Asia 2014**) **(CCF-A)**

10. *Shi-Min Hu, Fang-Lue Zhang, **Miao Wang**, Ralph R. Martin and Jue Wang.* PatchNet: A Patch-based Image Representation for Interactive Library-driven Image Editing. ACM Transactions on Graphics, 32(6), Article No. 196, 2013. (**SIGGRAPH Asia 2013**) **(CCF-A)**

11. *Fang-Lue Zhang, **Miao Wang** and Shi-Min Hu.* Aesthetic Image Enhancement by Dependence-Aware Object Re-Composition. IEEE Transactions on Multimedia, 15(7), 1480-1490, 2013. (CCF-B)

12. ***Miao Wang**, Fang-Lue Zhang and Shi-Min Hu.* Data-driven Image Analysis and Editing: A Survey. Journal of Computer-Aided Design & Computer Graphics, 27(11), 2015-2024, 2015. (In Chinese)

Teaching Experience

- **Fundamental of Computer Graphics** — Tsinghua University, Beijing
  Teaching Assistant — *Spring 2013*
    - Assisted lecturer preparing courseware, organizing seminar and making the paper.

Academic Services

- **Advisory Board**: Beijing Organizing Committee for the 2022 Olympics Winter Games, Jun.–Sept. 2018
- **Program Committee**:
    - **Workshop on Vision meets Graphics,** Nov. 2017, Wuhan, China
- **Reviewing**:
    - **Conference**: SIGGRAPH 2017; SIGGRAPH Asia 2018; Pacific Graphics 2016, 2018; ICIG 2017; CVM 2013-2017
    - **Transactions**: IEEE TVCG, CVMJ, Computer Graphics Forum, The Visual Computer, Journal of Computer Science and Technology

Invited Talks

- **Video Alignment Using Prominent Edges.** The 3nd Tsinghua-Cardiff workshop on Visual Computing, Sept. 2018
- **Hyper-lapse Creation from Multiple Spatially-overlapping Videos.** Top Paper Section, International Conference on Virtual Reality and Visualization, Oct. 2017
- **Multiple-source Hand-held Video Editing.** The 2nd Tsinghua-Cardiff workshop on Visual Computing, Sept. 2017
- **Data-driven Image Extrapolation.** Microsoft Research Asia PhD Forum, Sept. 2014
- **PatchNet: A Patch-based Image Representation for Interactive Library-driven Image Editing.** Visual Computing Group, Cardiff University, Nov. 2013

Selected Awards

- **Electronic Information Science and Technology Award from Chinese Institute of Electronics**: A large-scale street-view system (1st Prize, 9th Achiever), 2017.
- **ACM International Collegiate Programming Contest**: Ranked 36th in World Finals (2010); Gold & Silver Medals in Asian Regional Games (2009).

Grants

- **China Postdoctoral Science Foundation.** Tempo-spatial coherence analysis for camera path partition and editing, PI, 2016-2018.
- **International (regional) joint research program, National Natural Science Foundation of China.** Data-driven processing of visual media, Main Participant, 2016-2018.

Issued Patents

- **PatchNet Model and Construction Method Thereof.** Shi-Min Hu, Fang-Lue Zhang and **Miao Wang**, US9836880B2, 2017.
- **Aesthetic Image Enhancement by Dependence-Aware Object Re-Composition.** Shi-Min Hu, Fang-Lue Zhang and **Miao Wang**, CN201210455248.8, 2013.
- **Saliency-aware Video Object Cutout Based-on Super-pixel Segmentation.** Shi-Min Hu, **Miao Wang**, Tao Chen, Kun Xu and Jun-Jun Xiong, CN20110458008.9, 2011.