

Miao Wang

Postdoc Researcher
Graphics | Visual Computing Group
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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 – Present
 - **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.
- **Interdisciplinary Center Herzliya** Herzliya, Israel
Visiting Researcher Apr. 2017
 - **Hyper-lapse Creation:** Worked on hyper-lapse video creation from multiple spatially overlapping videos with Prof. Ariel Shamir. The proposed method outperforms single hyper-lapse methods while being able to synthesize novel camera paths.
- **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

- (Pre-print) **Miao Wang**, Guo-Ye Yang, Jin-Kun Lin, Shao-Ping Lu, Ariel Shamir and Shi-Min Hu. Towards Deep Online Video Stabilization. arXiv, 1802.08091, 2018.
- **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, to appear.
- 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, accepted.
- **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, 2018.
- **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), 2016. **Best Paper Honorable Mention.**
- Shao-Ping Lu, Sibor Feng, Beerend Ceulemans, **Miao Wang**, Rui Zhong and Adrian Munteanu. Multiview Conversion of 2D Cartoon Images. Communications in Information and Systems, Vol.16, No.4, 2016.
- **Miao Wang**, Fang-Lue Zhang and Shi-Min Hu. Data-driven Image Analysis and Editing: A Survey. Journal of Computer-Aided Design & Computer Graphics, Vol.11, Article No.1, 2015.
- **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), 2014. (**SIGGRAPH Asia 2014**)
- 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), 2014. (**SIGGRAPH Asia 2013**)

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

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 2018, ICIG 2017, CVM 2013-2017, CCCV 2017
 - **Transactions:** IEEE TVCG, CVMJ, Computer Graphics Forum, The Visual Computer, Journal of Computer Science and Technology

INVITED TALKS

- **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.