

**Zhe Zhu**( 朱哲 )  
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# Zhe Zhu

## Education

- 2007.9–2011.6      ★ **Bachelor’s Degree, School of Computer Science – Wuhan University**  
Supervisor: Prof.Zhiyong Yuan and Prof. Aiguo Yao  
Dissertation: Server-side implementation of a sketch based image montage system(**outstanding dissertation**)
- 2011.9–2017.1      ★ **PhD, Department of Computer Science and Technology – Tsinghua University**  
Supervisor: Prof.Shimin Hu  
Research Interest: Computer Graphics and Computer Vision  
Dissertation: Image Enhancement and Analysis for Street Views (**outstanding graduates in Beijing**)

## Experience

- 2016.6–2016.9      ★ **Intern Researcher, Adobe Research, San Jose, CA, USA**  
Supervisor: Dr Brian Price and Dr Scott Cohen
- 2017.2–present      ★ **Postdoc Associate, Duke University, Durham, NC, USA**  
Supervisor: Dr Maciej A Mazurowski and Dr. Mustafa R. Bashir MD

## List of Publications

### *Journal Paper*

12. *A Large Chinese Text Dataset in the Wild*  
Tai-Ling Yuan, **Zhe Zhu**, Kun Xu, Cheng-Jun Li, Tai-Jiang Mu, Shi-Min Hu, *Journal of Computer Science and Technology*, Volume 34, Issue 3, Pages 509-521, 2019/5/1.
11. *Deep Learning for identifying radiogenomic associations in breast cancer*  
**Zhe Zhu**, Ehab Albadawy, Ashirbani Saha, Jun Zhang, Michael R Harowicz, Maciej A Mazurowski, *Computers in biology and medicine*, 2019/4/25.
10. *Hierarchical Convolutional Neural Networks for Segmentation of Breast Tumors in MRI with Application to Radiogenomics*  
Jun Zhang, Ashirbani Saha, **Zhe Zhu**, Maciej Mazurowski, *IEEE transactions on medical imaging*, Volume 38, Issue 2, Pages 435-447, 2019/2.

9. *A Comparative Study of Algorithms for Realtime Panoramic Video Blending.*  
**Zhe Zhu**, Jiaming Lu, Songhai Zhang, Ralph Martin, Hantao Liu, Shi-Min Hu, *IEEE Transactions on Image Processing*, vol. 27, no. 6, pp. 2952-2965, June 2018.
8. *Computational Design of Transforming Popup Books.*  
Nan Xiao, **Zhe Zhu**, Ralph Martin, Kun Xu, Jiaming Lu, Shi-Min Hu, *ACM Transactions on Graphics*, 37, 1, Article 8 (January 2018), 14 pages.
7. *Extracting 3D Objects from Photographs Using 3-Sweep.*  
Tao Chen, **Zhe Zhu**, Shi-Min Hu, Daniel Cohen-Or, Ariel Shamir, *Communications of the ACM*, 2016, Vol. 59 No. 12, Pages 121-129.
6. *An Optimization Approach for Localization Refinement of Candidate Traffic Signs .*  
**Zhe Zhu**, Jiaming Lu, Ralph Martin, Shi-Min Hu, *IEEE Transactions on Intelligent Transportation Systems*, 2017, Vol 18, No. 11, pp 3006-3016.
5. *3D Modeling and Motion Parallax for Improved Videoconferencing.*  
**Zhe Zhu**, Ralph R. Martin, Robert Pepperell, Alistair Burleigh, *Computational Visual Media*, 2016. Volume 2. Issue 2. pp 131 - 142.
4. *Faithful Completion of Images of Scenic Landmarks using Internet Images*  
**Zhe Zhu**, Hao-Zhi Huang, Zhi-Peng Tan, Kun Xu, Shi-Min Hu, *IEEE Transactions on Visualization and Computer Graphics*, 2016. Volume 22. Issue 8. pp 1945 - 1958.
3. *Panorama Completion for Street Views.*  
**Zhe Zhu**, Ralph R. Martin, and Shi-Min Hu, *Computational Visual Media*, 2015. Vol.1. No.1.
2. *3-Sweep: Extracting Editable Objects from a Single Photo.*  
Tao Chen, **Zhe Zhu**, Ariel Shamir, Shi-Min Hu, Daniel Cohen-Or, *ACM Transactions on Graphics (TOG)*. 2013. Vol. 32. No. 6. (SIGGRAPH Asia 2013).
1. 基于 GPU 加速的实时 4K 全景视频拼接  
卢嘉铭, 朱哲, *计算机科学*, 44(8), 18-21, 2017.

### Conference Paper

7. *Breast cancer molecular subtype classification using deep features: preliminary results*  
**Zhe Zhu**, Ehab Albadawy, Ashirbani Saha, Jun Zhang, Michael R. Harowicz, Maciej A. Mazurowski, *SPIE Medical Imaging*, 2018.
6. *Deep learning-based features of breast MRI for prediction of occult invasive disease following a diagnosis of ductal carcinoma in situ: preliminary data*  
**Zhe Zhu**, Michael R. Harowicz, Jun Zhang, Ashirbani Saha, Lars J. Grimm, Shelley Hwang, Maciej A. Mazurowski, *SPIE Medical Imaging*, 2018.
5. *Breast Tumor Segmentation in DCE-MRI Using Fully Convolutional Networks with an Application in Radiogenomics*  
Jun Zhang, Ashirbani Saha, **Zhe Zhu**, Maciej A. Mazurowski, *SPIE Medical Imaging*, 2018.
4. *Breast Mass Detection in Mammography and Tomosynthesis via Fully Convolutional Network-based Heatmap Regression*  
Jun Zhang, Elizabeth Hope Cain, Ashirbani Saha, **Zhe Zhu**, Maciej A. Mazurowski, *SPIE Medical Imaging*, 2018.
3. *Convolutional Encoder-Decoder for Breast Mass Segmentation in Digital Breast Tomosynthesis*  
Jun Zhang, Sujata V. Ghate, Lars J. Grimm, Ashirbani Saha, Elizabeth Hope Cain, **Zhe Zhu**, Maciej A. Mazurowski, *SPIE Medical Imaging*, 2018.

2. *Traffic-Sign Detection and Classification in the Wild.*  
**Zhe Zhu**, Dun Liang, Songhai Zhang, Xiaolei Huang, Baoli Li, Shi-Min Hu, *IEEE Conference on Computer Vision and Pattern Recognition*, 2016. 2110-2118.
1. *Avoiding Bleeding in Image Blending*  
 Minxuan Wang, **Zhe Zhu**, Songhai Zhang, Ralph Martin, Shi-Min Hu, *IEEE International Conference on Image Processing (ICIP)*, 2017.

#### *Paper under Review*

8. *Deep learning analysis of breast MRIs for prediction of occult invasive disease in ductal carcinoma in situ*  
**Zhe Zhu**, Michael Harowicz, Jun Zhang, Ashirbani Saha, Lars J Grimm, E Shelley Hwang, Maciej A Mazurowski, submitted to *Computers in Biology and Medicine*.
7. *A Metric for Video Blending Quality Assessment*  
**Zhe Zhu**, Hantao Liu, Jiaming Lu, and Shi-Min Hu, submitted to *IEEE Transactions on Image Processing*.
6. *Mask embedding for Realistic High-resolution Medical Image Synthesis*  
 Yinhao Ren, **Zhe Zhu**, Yinzhou Li, Dehan Kong, Lars J.Grimm, Maciej Mazurowski, Jeffrey R.Marks, Joseph Lo, accepted by the *22nd International Conference on Medical Image Computing and Computer Assisted Intervention*.
5. *Mask Embedding in conditional GAN for Guided Synthesis of High Resolution Images*  
 Yinhao Ren, **Zhe Zhu**, Yinzhou Li, Joseph Lo, submitted to *NeurIPS 2019*.
4. *3D Pyramid Pooling Network for Liver MRI Series Classification*  
**Zhe Zhu**, Amber Mittendorf, Mustafa R.Bashir, and Maciej A.Mazurowski, submitted to *IEEE Transactions on Pattern Analysis and Machine Intelligence*.
3. *Liver MRI Series Classification using 3D Convolutional Neural Networks*  
**Zhe Zhu**, Amber Mittendorf, Mustafa R.Bashir, and Maciej A.Mazurowski, submitted to *SPIE Medical Imaging 2020*.
2. *Model-Guided 3D Stitching for Video Fusion*  
 Zhong Zhou, Ming Meng, Yi Zhou, **Zhe Zhu**, Jingdi You, submitted to *IEEE Transactions on Visualization and Computer Graphics*.
1. *A Three-Stage Real-time Detector for Traffic Signs in Large Panoramas*  
 Yizhi Song, Ruochen Fan, Sharon Huang, **Zhe Zhu**, Ruofeng Tong, submitted to *Computational Visual Media Conference 2019*.

## **Academic Service**

### **Reviewers for:**

*IEEE Transactions on Visualization and Computer Graphics*

*IEEE Transactions on Image Processing*

*Journal of Computer Science and Technology*

*Computer & Graphics*

*CVPR 2019*

*ICCV 2019*

*IEEE Signal Processing Letters*

*Computational Visual Media*

*Visual Computer*

## Patents

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*Method, device and computer-readable storage medium for panoramic image completion* - US9165338B2

Tsinghua University, Tencent

Kun Xu, Jianyu Wang, Baoli Li, Haifeng Deng, Zhe Zhu

*Digital Image Processing through use of an Image Repository* - US20180286023A1

Adobe Inc.

Zhe Zhu, Scott D. Cohen, Brian L. Price

*Digital image processing including refinement layer, search context data, or DRM* - US10169549B2

Adobe Inc.

Zhe Zhu, Scott D. Cohen, Brian L. Price

*Texture mapping method for solid of revolution* - 201310446992.6

Tsinghua University

Shimin Hu, Tao Chen, Zhe Zhu

*Modeling method for solid of revolution* - 201310446573.2

Tsinghua University

Shimin Hu, Tao Chen, Zhe Zhu

*Image processing method and device* - 201410081866.X

Tencent

Shimin Hu, Jianyu Wang, Haifeng Deng, Kun Xu, Zhe Zhu

*Image correction method and device* - 201510003719.5

Tencent

Shimin Hu, Tianyi Gui, Zhe Zhu

*Panorama completion method and device* - 201310019530.6

Tencent, Tsinghua University

Kun Xu, Jianyu Wang, Baoli Li, Haifeng Deng, Zhe Zhu

*Line segment matching method and device* - 201510532135.7

Tsinghua University

Shimin Hu, Zhe Zhu

*Image registration method and device* - 201510532152.0

Tsinghua University

Shimin Hu, Zhe Zhu

*An optimization approach for localization refinement of candidate traffic signs* - 201611170043.X

Tsinghua University

Shimin Hu, Zhe Zhu, Jiaming Lu

## Professional Skills

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Skilled in C++, Python, Matlab

Familiar with JAVA and C#

## **Awards**

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National Scholarship, 2008

Samsung Scholarship, 2009

Kodak Scholarship, 2010

Outstanding Graduates in Beijing, 2017

First Prize of Science and Technology Award of Chinese Institute of Electronics, 2017

## **Personal Interests**

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Traditional Chinese culture

Outdoor activity