Yulun ZHANG

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CONTACT INFORMATION	Department of Automation, Tsinghua University, Beijing, China Homepage: http://yulunzhang.com/	yulun100@gmail.com Tel: 86-13168760429

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RESEARCH INTERESTS

Machine Learning: sparse/collaborative representation, dictionary learning, deep learning. Computer Vision: image processing (image restoration/generation, style transfer) and visual recognition (face recognition/verification).

EDUCATION

Tsinghua University, Beijing, China   Sep 2014 – Jul 2017

M.E., Department of Automation
- Major in Control Engineering
- Advisor: *Prof.* Yongbing Zhang
- Overall GPA: 3.73/4.0, Major GPA: 3.75/4.0

The University of Sydney, Sydney, Australia   Jan 2016 – Jul 2016

Visiting Student, School of Electrical and Information Engineering
- Advisor: *Prof.* Dong Xu and Dr. Wen Li
- Research on metric learning with privileged information for visual recognition.

Xidian University, Xi'an, China   Sep 2009 – Jul 2013

B.S., School of Electronic Engineering
- Major in Intelligence Science and Technology
- Overall GPA: 3.36/4.0, Major GPA: 3.63/4.0

RESEARCH EXPERIENCE

Research Assistant   Oct 2016 – Jun 2017
Multimedia Research Center, SIAT, Chinese Academy of Sciences, China
Supervisor: *Prof.* Yu Qiao
Projects: Generative adversarial networks (GAN) for image restoration/generation.

Project Officer   Nov 2015 – Jan 2016
School of Computer Engineering, Nanyang Technological University, Singapore
Supervisor: Dr. Li Niu and *Prof.* Dong Xu
Projects: Exploiting privileged information from web data for visual recognition.

Research Assistant   Mar 2014 – Jul 2017
Department of Automation, Tsinghua University, China
Supervisor: *Prof.* Yongbing Zhang
Projects: Image super-resolution and compression artifact removal via sparse/collaborative representation and deep learning.

Research Assistant   Jun – Aug 2012, Dec 2012 – Jun 2013
School of Electronic Engineering, Xidian University, China
Supervisor: *Prof.* Shuyuan Yang
Projects: 1. Learning efficient features for action recognition in video domain. 2. Depth extraction from natural images using optical flow.

PREPRINTS

(* means corresponding author and *Prof.* Yongbing Zhang is my master supervisor.)

1. Yongbing Zhang, **Yulun Zhang***, et al., "Self-enhanced Adaptive Local Nonparametric Regression for Image Super-Resolution and Compression Artifact Removal," *submitted to IEEE Trans. Image Process.* (**TIP**)

2. Yapeng Tian, Fei Zhou, Xuesen Shang, Wenming Yang, **Yulun Zhang**, et al., "Local and Nonlocal Graph Laplacian Regularization for Single Image Super-Resolution with Deep Network Enhancement," *submitted to IEEE Trans. Image Process.* (**TIP**)

JOURNAL PUBLICATIONS	(* means corresponding author and *Prof.* Yongbing Zhang is my master supervisor.)

JOURNAL PUBLICATIONS

(* means corresponding author and *Prof.* Yongbing Zhang is my master supervisor.)

1. Yongbing Zhang, **Yulun Zhang***, Jian Zhang, and Qionghai Dai, "CCR: Clustering and Collaborative Representation for Fast Single Image Super-Resolution," *IEEE Trans. Multimedia* (**TMM**), vol. 18, no. 3, pp. 405–417, Mar. 2016.

2. Yongbing Zhang, **Yulun Zhang***, Jian Zhang, Dong Xu, Yun Fu, Xiangyang Ji, and Qionghai Dai, "Collaborative Representation Cascade for Single Image Super-Resolution," *IEEE Trans. Syst., Man, Cybern., Syst.* (**TSMC**), 2017.

CONFERENCE PUBLICATIONS

1. **Yulun Zhang**, Yongbing Zhang, Jian Zhang, Haoqian Wang, and Qionghai Dai, "Adaptive Local Nonparametric Regression for Fast Single Image Super-Resolution," *IEEE International Conference on Visual Communications and Image Processing* (**VCIP**), 2015. (Best Student Paper Award, **1** out of over **313** submissions.)

2. **Yulun Zhang**, Kaiyu Gu, Yongbing Zhang, Jian Zhang, and Qionghai Dai, "Image Super-Resolution Based on Dictionary Learning and Anchored Neighborhood Regression with Mutual Incoherence," *IEEE International Conference on Image Processing* (**ICIP**), 2015.

3. **Yulun Zhang**, Yongbing Zhang, Jian Zhang, Haoqian Wang, and Qionghai Dai, "Single Image Super-Resolution via Iterative Collaborative Representation," *Pacific-Rim Conference on Multimedia* (**PCM**), 2015.

4. **Yulun Zhang**, Yongbing Zhang, and Qionghai Dai, "Single Depth Image Super-Resolution via A Dual Sparsity Model," *IEEE International Conference on Multimedia and Expo* (**ICME**) *Workshop on Hot Topics in 3D* (**Hot3D**), 2015.

5. Tao Shen, **Yulun Zhang**, Yongbing Zhang, Xingzheng Wang, Haoqian Wang, and Qionghai Dai, "Decompressed Video Enhancement via Accurate Regression Prior," *IEEE International Conference on Visual Communications and Image Processing* (**VCIP**), 2016.

6. Yihui Feng, Yongbing Zhang, **Yulun Zhang**, Tao Shen, and Qionghai Dai, "Single Image Super-Resolution via Projective Dictionary Learning with Anchored Neighborhood Regression," *IEEE International Conference on Visual Communications and Image Processing* (**VCIP**), 2016.

7. Radu Timofte, ..., **Yulun Zhang**, ..., et al., "NTIRE 2017 Challenge on Single Image Super-Resolution: Methods and Results," *IEEE CVPR New Trends in Image Restoration and Enhancement workshop and challenge on image super-resolution* (**CVPR NITRE**), 2017. (Our team ranked 2nd place.)

HONORS AND AWARDS

- Shenzhen Universiade International Scholarship, 2017
- Excellent Graduate of Beijing, 2017
- Excellent Graduate in Department of Automation, Tsinghua University, 2017
- Excellent Master Thesis of Tsinghua University, 2017
- National Scholarship (Ministry of Education, China, Top 2%), 2016
- Best Student Paper Award at IEEE **VCIP**, 2015
- Jingzhi Research Award in Tsinghua University (Top 5%), 2015
- Second Prize Scholarship of Xidian University, 2011, 2012
- Advanced Individual of Social Work, 2011
- Third Prize Scholarship of Xidian University, 2010
- Advanced Individual of Civilized Dormitory Contribution, 2010
- Excellent Student in Xidian University (Top 5%), 2009

PROFESSIONAL ACTIVITIES	Journal Reviewer
	• IEEE Trans. Image Process. (**TIP**) (since Jul 2016)
	• IEEE Trans. Circuits Syst. Video Technol. (**TCSVT**) (since May 2016)
	Oral Presentations or Posters at Conferences
	• IEEE Int. Conf. on Visual Communications and Image Processing, Singapore Dec 2015
	• IEEE International Conference on Image Processing, Quebec, Canada Sep 2015
	• Pacific-Rim Conference on Multimedia, Gwangju, Korea Sep 2015
	• IEEE International Conference on Multimedia and Expo, Torino, Italy Jun 2015
	Memberships
	• Student Member, IEEE
	• Student Member, CCF
TEACHING	• Teaching Assistant, Modern Signal Processing, Tsinghua University Fall 2015
SKILLS	• Programming: Matlab, C/C++, Python, Lua, LATEX, Visual Studio, OpenCV, Linux.
	• Deep learning tools: Caffe, Torch, Keras.