Yulun ZHANG Aug 7, 2019

Contact 427 Richard Hall, 360 Huntington Ave., vulun100@gmail.com

Northeastern University, Boston, MA, U.S.

Tel: +1-(617)849-0935

Homepage: http://yulunzhang.com

Google Scholar

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Research Machine Learning: deep learning.

Interests Computer Vision: image restoration, style transfer

EDUCATION Northeastern University, Boston, USA Sep 2017 – Now

Ph.D., Department of ECE, College of Engineering

Major in Computer EngineeringAdvisor: *Prof.* Yun Raymond Fu

• Overall GPA: 3.92/4.0

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

Information

SMILE lab, Northeastern University, Boston, USA

Sep 2017 – Now

Research Assistant Supervisor: *Prof.* Yun Raymond Fu

Projects: Deep learning for image restoration and generation.

Adobe Research, San Jose, USA

Jun 2019 – Aug 2019

Research Intern Mentors: Zhifei Zhang, Stephen DiVerdi, Zhaowen Wang, Jose Echevarria Projects: Painting super-resolution.

Adobe Research, San Jose, USA

May 2018 – Aug 2018

Research Intern Mentors: Chen Fang, Zhaowen Wang, Yilin Wang, Jimei Yang, Zhe Lin Projects: Style transfer.

Tsinghua University, China

Mar 2014 – Jul 2017

Research Assistant Supervisor: *Prof.* Yongbing Zhang

Projects: Image super-resolution and compression artifact removal via sparse/collaborative representation and deep learning.

SIAT, Chinese Academy of Sciences, China

Oct 2016 – Jun 2017

Research Assistant Supervisor: *Prof.* Yu Qiao

Projects: Generative adversarial networks (GAN) for image restoration/generation.

Nanyang Technological University, Singapore

Nov 2015 – Jan 2016

Project Officer Supervisor: Dr. Li Niu and Prof. Dong Xu

Projects: Exploiting privileged information from web data for visual recognition.

Xidian University, China

Jun – Aug 2012, Dec 2012 – Jun 2013

Position: Research Assistant Supervisor: *Prof.* Shuyuan Yang

Projects: 1. Learning efficient features for action recognition in video domain. 2. Depth extraction from natural images using optical flow.

Journal Publications

- (* means corresponding author and *Prof.* Yongbing Zhang is my master supervisor.)
 - Xiaole Zhao, <u>Yulun Zhang</u>, Tao Zhang, and Xueming Zou, "Channel Splitting Network for Single MR Image Super-Resolution", *IEEE Transactions on Image Processing* (TIP), 2019
 - 2. Bineng Zhong, Bing Bai, Jun Li, <u>Yulun Zhang</u>, and Yun Fu, "Hierarchical Tracking by Reinforcement Learning based Searching and Coarse-to-fine Verifying", *IEEE Trans. on Image Processing* (**TIP**), 2019.
 - 3. Qinqin Zhou, Bineng Zhong, <u>Yulun Zhang</u>, Jun Li, and Yun Fu, "Deep Alignment Network Based Multi-person Tracking with Occlusion and Motion Reasoning", *IEEE Trans. Multimedia* (TMM), 2018.
 - Yongbing Zhang, <u>Yulun Zhang*</u>, 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.
 - 5. 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.

Conference Publications

- 1. Yulun Zhang, Chen Fang, Yilin Wang, Zhaowen Wang, Zhe Lin, Yun Fu, and Jimei Yang, "Multimodal Style Transfer via Graph Cuts", *IEEE International Conference on Computer Vision* (ICCV), 2019. (Poster, 25%)
- 2. Kunpeng Li, Yulun Zhang, Kai Li, Yuanyuan Li, and Yun Fu, "Visual Semantic Reasoning for Image-Text Matching", *IEEE International Conference on Computer Vision* (ICCV), 2019. (Oral, 4.3%)
- 3. Kunpeng Li, Yulun Zhang, Kai Li, Yuanyuan Li, and Yun Fu, "Attention Bridging Network for Knowledge Transfer", *IEEE International Conference on Computer Vision* (ICCV), 2019. (Poster, 25%)
- 4. Qinqin Zhou, Bineng Zhong, Xiangyuan Lan, Gan Sun, <u>Yulun Zhang</u>, Mengran Gou, "LRDNN: Local-rening based Deep Neural Network for Person Re-Identication with Attribute Discerning", *International Joint Conference on Artificial Intelligence* (IJCAI), 2019
- 5. Yulun Zhang, Kunpeng Li, Kai Li, Bineng Zhong, and Yun Fu, "Residual Non-local Attention Networks for Image Restoration", *International Conference on Learning Representations* (ICLR), 2019. (Poster, 31%)
- 6. Yulun Zhang, Kunpeng Li, Kai Li, Lichen Wang, Bineng Zhong, and Yun Fu,, "Image Super-Resolution Using Very Deep Residual Channel Attention Networks", European Conference on Computer Vision (ECCV), 2018. (Poster, 29.4%)
- 7. Yulun Zhang, Yapeng Tian, Yu Kong, Bineng Zhong, and Yun Fu, "Residual Dense Network for Image Super-Resolution", *IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), 2018. (Spotlight, 6.6%)
- 8. Kai Li, Zhengming Ding, Kunpeng Li, <u>Yulun Zhang</u>, and Yun Fu, "Support Neighbor Loss for Person Re-Identification", *ACM International Conference on Multimedia* (**ACM MM**), 2018. (Poster, 27 %)
- 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.)

10. 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 NTIRE), 2017. (Our team ranked 2^{nd} place.)

Honors	AND
Awards	

• ICLR Travel Award,	2019
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• PhD Network Travel Grant, Northeastern University, USA,	2018
• Dean's Fellowship in Northeastern University, USA,	2017
• Shenzhen Universiade International Scholarship, China,	2017
• Excellent Graduate of Beijing, China,	2017
• Excellent Graduate of 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 Reviewer

ACTIVITIES

- Conferences: CVPR'2019, ICCV'2019, AAAI'2019/2020
- Journals: TPAMI, TIP, TCSVT, TMM, TNNLS, TMI, TCI, CVIU

Teaching

• Teaching Assistant, Computer Vision, Northeastern University Fall 2018 • Teaching Assistant, Modern Signal Processing, Tsinghua University Fall 2015

SKILLS

- Programming: Matlab, Python, Lua, C/C++, LATEX, Visual Studio, OpenCV, Linux.
- Deep learning tools: PyTorch, TensorFlow, Caffe, Torch, Keras, MatConvNet.