# Xutong Ren

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https://tonghelen.github.io/


## Education

**Carnegie Mellon University** — Pittsburgh, PA, U.S.
Master of Science in Machine Learning. — Aug. 2019 – Dec. 2020

**Peking University** — Beijing, China
Bachelor of Science in Computer Science. — Sept. 2015 – July 2019

- Major GPA: 3.81/4.00. Honorable Degree of Bachelor of Science.

## Publication

[1] Chen Wei, Lingxi Xie, **Xutong Ren**, Yingda Xia, Chi Su, Jiaying Liu, Qi Tian and Alan Yuille, "Iterative Reorganization with Weak Spatial Constraints: Solving Arbitrary Jigsaw Puzzles for Unsupervised Representation Learning," *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, June 2019.

[2] **Xutong Ren**, Mading Li, Wen-Huang Cheng and Jiaying Liu, "Joint Enhancement and Denoising Method via Sequential Decomposition," *IEEE International Symposium on Circuits and Systems (ISCAS)*, May 2018, pp. 1–5. (**oral**)

[3] **Xutong Ren**, Lingxi Xie, Chen Wei, Siyuan Qiao, Chi Su, Jiaying Liu, Qi Tian, Elliot Fishman and Alan Yuille, "Generalized Coarse-to-Fine Visual Recognition with Progressive Training," *Arxiv e-print 1811.12047*.

[4] **Xutong Ren**, Wenhan Yang, Wen-Huang Cheng, Jiaying Liu, "LR3M: Robust Low-Light Enhancement via Low-Rank Regularized Retinex Model," submitted to *IEEE Transactions on Image Processing (TIP)*.

## Patent

[1] Jiaying Liu, **Xutong Ren**, Mading Li, Zongming Guo, "Method, System and Computer Device of Low-light Enhancement and Denoising," CN201810243551.9

## Experience

**Research Assistant**
Institute of Computer Science and Technology, Peking University. — Beijing, China
Advisor: Prof. Jiaying Liu, PKU. — May 2017 – June 2019

Proposed a joint low-light enhancement and denoising strategy based on a novel sequential Retinex decomposition concept, making simultaneous processing possible and improving visual quality. Explored a new issue of text effect assessment for estimating the quality of images generated by text effect transfer models.

**Machine Learning Engineering**
Google Beijing Office — Beijing, China
Google AI ML Winter Camp. — Jan. 2019 – Jan. 2019

Focused on the domain of image to image translation and realized local face attribute transfer on real human images in an unsupervised way, using cartoon images as a bridge. Trained and evaluated five different generative networks. Won the *Most Technical Award*.

**Research Visiting**
Center for Imaging Science, Johns Hopkins University. — Baltimore, MD, U.S.
Advisor: Prof. Alan Yuille, JHU. — July 2018 – Sept. 2018

Focused on visual representation learning in a self-supervised manner and built a recurrent solution to jigsaw puzzles of arbitrary permutations to transfer learned weights. Proposed a generalized coarse-to-fine model with progressive training strategy to improve stability and relieve over-fitting, which brings gains of $2\% - 10\%$ in a wide range of visual recognition tasks.

**Teaching Assistant**
School of Electronics Engineering and Computer Science, Peking University — Beijing, China
Director: Prof. Guoping Wnag, PKU. — Sept. 2017 – Jan. 2018

Taught major compulsory course *Introduction to Computer Systems*.

## Honors

- Best Technical Project Award at Google AI ML Winter Camp — 2019
- Peking University Award for Academic Excellents — 2018, 2017
- Wang Shengdi Scholarship (top 10%) — 2018
- 8108 College Scholarship (top 10%) — 2017
- The Third Prize of Peking University ACM ICPC — 2017
- Peking University Award for Excellent Volunteers — 2016

## Skills

- Program Languages: C/C++, Python, MATLAB, Lua;
- Deep Learning Framework: PyTorch, Torch.