Yongcheng Liu | Computer Vision

0086-15600155670 • yongcheng.liu@nlpr.ia.ac.cn • yochengliu.github.io

National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences

Education

Ph.D. in Artificial Intelligence
School of Artificial Intelligence, University of Chinese Academy of Sciences, Beijing, China 2015–2020

B.E. in Control Technology and Instrument
School of Automation, Huazhong University of Science and Technology, Wuhan, China 2011–2015

Research Interests

3D point cloud processing, image segmentation, multi-label image recognition and object detection driven by deep learning.

Experience

Sensetime - Research Intern in Computer Vision 2017.11–2018.06

Project 1: Real-time Scene Recognition

- Highlights: core accomplisher (**90%**), ten millions level of data, thousands of labels, weakly-supervised detection

Project 2: Model Compression

- Highlights: core accomplisher (**90%**), network slimming, channel pruning, MobileNet (56ms → 24ms)

Competition

2017.05: ISPRS 2D Semantic Labeling Challenge **Double Champion**

- Highlights: independent achievement (**100%**), international, image segmentation, remote sensing

2018.11: Princeton ModelNet40 Benchmark **1st Place**

- Highlights: independent achievement (**100%**), international, 3D point cloud, shape classification

2017.07: The 1st Eye Cup Challenge **2nd Place**

- Highlights: captain, core accomplisher (**80%**), Chinese, object detection, remote sensing

2017.10: Chinese Conference on Computer Vision (CCCV): Remote Target Extraction Challenge **4th Place**

- Highlights: captain, core accomplisher (**80%**), object detection, remote sensing

Publications

[C-1]: Yongcheng Liu, Bin Fan, Shiming Xiang, and Chunhong Pan. Relation-Shape Convolutional Neural Network for Point Cloud Analysis. In *IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**, **CCF A**), **Oral Presentation & Best Paper Finalist**, pages 8895-8904, 2019.

[C-2]: Yongcheng Liu, Bin Fan, Gaofeng Meng, Jiwen Lu, Shiming Xiang, and Chunhong Pan. DensePoint: Learning Densely Contextual Representation for Efficient Point Cloud Processing. In *IEEE International Conference on Computer Vision* (**ICCV**, **CCF A**), pages 1-10, 2019.

[C-3]: Yongcheng Liu, Lu Sheng, Jing Shao, Junjie Yan, Shiming Xiang, and Chunhong Pan. Multi-Label Image Classification via Knowledge Distillation from Weakly-Supervised Detection. In *ACM International Conference on Multimedia* (**ACM MM**, **CCF A**), pages 700-708, 2018.

[C-4]: Yongcheng Liu, Bin Fan, Lingfeng Wang, Jun Bai, Shiming Xiang, and Chunhong Pan. Context-Aware Cascade Network for Semantic Labeling in VHR image. In *IEEE International Conference on Image Processing* (**ICIP**, **CCF C**), **Oral Presentation**, pages 575-579, 2017.

[J-1]: Yongcheng Liu, Bin Fan, Lingfeng Wang, Jun Bai, Shiming Xiang, and Chunhong Pan. Semantic Labeling in Very High Resolution Images via A Self-Cascaded Convolutional Neural Network. *ISPRS Journal of Photogrammetry and Remote Sensing*. (**IF = 6.942, SCI Top**), vol.145, pp.78-95, Nov. 2018.

Awards

Best Paper Finalist, CVPR 2019
National Scholarship, 2014
National Motivational Scholarship, 2013
Merit Student, University of Chinese Academy of Sciences, 2018
Merit Student, Huazhong University of Science and Technology, 2014
842 Alumni Scholarship, Huazhong University of Science and Technology, 2012
Climbing Scholarship, Institute of Automation, Chinese Academy of Sciences, 2018&2019
Annual Outstanding Student Cadre, Huazhong University of Science and Technology, 2012&2013
Annual Self-Strengthening Student Pacesetter, School of Automation, Huazhong University of Science and Technology, 2013

Technical Skills

- Computer Languages: MATLAB, Python, C/C++, LaTeX
- Deep Learning Platforms: PyTorch, Caffe, MXNet
- Operating Systems: Linux/Unix, Windows
- Productivity Tools: MATLAB, PyCharm, Microsoft Visual Studio, Vim

Community Activities

- 2012.11 – 2013.06: Deputy director of academic department (15 people), School of Automation
- 2013.09 – 2014.05: Director of news center (30 people), School of Automation