

Yongming Rao

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Education

Department of Automation, Tsinghua University PhD student in Computer Vision Advisor: Prof. Jiwen Lu	Beijing, China 2018-present
Department of Electronic Engineering, Tsinghua University B.E. in Electronic Engineering	Beijing, China 2014-2018
PBC School of Finance, Tsinghua University Minor in Finance	Beijing, China 2015-2018

Academic Experience

Multimedia Lab, The Chinese University of Hong Kong <i>Research assistant advised by Prof. Dahua Lin</i>	Jul 2017 - Sept 2017
Megvii Research <i>Research intern advised by Dr. Xiangyu Zhang and Dr. Jian Sun</i>	Apr 2017 - Jul 2017

Publications

* indicates equal contribution

Peer-Reviewed Conference Publications

- [1] **Yongming Rao**, Jiwen Lu, and Jie Zhou
Global-Local Bidirectional Reasoning for Unsupervised Representation Learning of 3D Point Clouds
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020
- [2] Cheng Ma, **Yongming Rao**, Yean Cheng, Ce Chen, Jiwen Lu, and Jie Zhou
Structure-Preserving Super Resolution with Gradient Guidance
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020
- [3] Cheng Ma, Zhengyu Jiang, **Yongming Rao**, Jiwen Lu, and Jie Zhou
Deep Face Super-Resolution with Iterative Collaboration between Attentive Recovery and Landmark Estimation
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020
- [4] **Yongming Rao**, Jiwen Lu, and Jie Zhou
Spherical Fractal Convolution Neural Networks for Point Cloud Recognition
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2019
- [5] Yansong Tang, Dajun Ding, **Yongming Rao**, Yu Zheng, Danyang Zhang, Lili Zhao, Jiwen Lu, and Jie Zhou
COIN: A Large-scale Dataset for Comprehensive Instruction Video Analysis
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2019
- [6] **Yongming Rao**, Dahua Lin, Jiwen Lu, and Jie Zhou
Learning Globally Optimized Object Detector via Policy Gradient
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2018 **spotlight presentation**
- [7] Ji Lin*, **Yongming Rao***, Jiwen Lu, and Jie Zhou
Runtime Neural Pruning
The Thirty-first Annual Conference on Neural Information Processing Systems (NeurIPS), 2017
- [8] **Yongming Rao**, Ji Lin, Jiwen Lu, and Jie Zhou
Learning Discriminative Aggregation Network for Video-Based Face Recognition
IEEE International Conference on Computer Vision (ICCV), 2017 **spotlight presentation**
- [9] **Yongming Rao**, Jiwen Lu, and Jie Zhou
Attention-aware Deep Reinforcement Learning for Video Face Recognition
IEEE International Conference on Computer Vision (ICCV), 2017

- [10] Bilong Shen, Ying Zhao, Guoliang Li, Weimin Zheng, Yue Qin, Bo Yuan, and **Yongming Rao**
V-tree: Efficient KNN Search on Moving Objects with Road-Network Constraints
 IEEE 33rd International Conference on Data Engineering (ICDE), 2017

Peer-Reviewed Journal Publications

- [11] **Yongming Rao**, Jiwen Lu, and Jie Zhou
Learning Discriminative Aggregation Network for Video-based Face Recognition and Person Re-identification
 International Journal of Computer Vision (IJCV, IF: 6.07), 2019
- [12] **Yongming Rao**, Jiwen Lu, Ji Lin, and Jie Zhou
Runtime Network Routing for Efficient Image Classification
 IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI, IF: 17.73), 2019

ArXiv Preprints

- [13] Peiyu Yu, **Yongming Rao**, Jiwen Lu, and Jie Zhou
P²GNet: Pose-Guided Point Cloud Generating Networks for 6-DoF Object Pose Estimation
 arXiv:1912.09316, 2019

Talks

- **Deep Reinforcement Learning for Computer Vision**
 CVPR'2019 Tutorial on Deep Reinforcement Learning for Computer Vision June 2019
- **Spherical Fractal Convolution Neural Networks for Point Cloud Recognition**
 Invited Presentation at 2019 Beijing University Academic Forum on Artificial Intelligence March 2019
- **Learning Globally Optimized Object Detector via Policy Gradient**
 CVPR'2018 Spotlight Presentation June 2018
- **Runtime Neural Pruning**
 Invited Presentation at the 15th China Workshop on Machine Learning and Applications (MLA'2017) Nov 2017
- **Learning Discriminative Aggregation Network for Video-Based Face Recognition**
 ICCV'2017 Spotlight Presentation Oct 2017

Honors and Awards

- 2019 CCF-CV Academic Emerging Award 2019
- 2019 Microsoft Research Asia Fellowship Nomination Award 2019
- National Scholarship, Tsinghua University 2019
- ICME 2019 Best Reviewers Award 2019
- NeurIPS 2019 Top 50% High-Scoring Reviewer 2019
- 1st prize in Beijing University Academic Forum on Artificial Intelligence 2019
- 1st place in Momenta Lane Detection Challenge 2018
- 2017 Sensetime Undergraduate Scholarship 2017
- 1st place in 17th Electronic Design Contest of Tsinghua University 2016
- Huawei Innovation Prize in 2016 Tsinghua Challenge Cup 2016
- EMC Innovation Prize in 2016 Tsinghua Challenge Cup 2016

Academic Services

Co-Organizer

- Tutorial on Deep Reinforcement Learning for Computer Vision at CVPR 2019.

Journal Reviewer

- International Journal of Computer Vision
- IEEE Transactions on Image Processing
- IEEE Transactions on Multimedia
- IEEE Transactions on Cybernetics

- IEEE Access
- Pattern Recognition

Conference Reviewer

- IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2018, 2019, 2020)
- International Conference on Machine Learning (ICML 2019, 2020)
- International Conference on Computer Vision (ICCV 2019)
- Neural Information Processing Systems (NeurIPS 2019, 2020)
- European Conference on Computer Vision (ECCV 2020)
- AAAI Conference on Artificial Intelligence (AAAI 2020)
- IEEE International Conference on Multimedia and Expo (ICME 2019, 2020)
- IEEE Winter Conference on Applications of Computer Vision (WACV 2020)
- Asian Conference on Computer Vision (ACCV 2018)
- International Conference on Pattern Recognition (ICPR 2018)
- IEEE International Conference on Image Processing (ICIP 2018, 2019)