

Yong Guo

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PARTICULARS

EDUCATION

South China University of Technology (SCUT)
Ph. D. in Software Engineering

Guangzhou, China
Sep. 2016 - July. 2021 (expected)

South China University of Technology (SCUT)
B.A. in Software Engineering

Guangzhou, China
Sep. 2012 - July. 2016

RESEARCH EXPERIENCES

SCUT Machine Intelligence Lab
Leading a Computer Vision Group in the Lab

Guangzhou, China
Sep. 2016 - Present

Tencent AI Lab
Intern in Machine Learning Group

Shenzhen, China
Oct. 2018 - Present

RESEARCH INTERESTS & ACCOMPLISHMENTS

My research mainly focuses on **designing/compressing deep neural networks** for a wide span of applications in **Computer Vision** and **Machine Learning**. My works have been published in several top-tier conferences and journals, including **CVPR, NeurIPS, ICML, AAAI, TPAMI, TMM, etc.**

PUBLICATIONS

1. **NAT: Neural Architecture Transformer for Accurate and Compact Architectures**
Yong Guo, Yin Zheng, Mingkui Tan, Qi Chen, Jian Chen, Peilin Zhao, Junzhou Huang
Advances in Neural Information Processing Systems (NeurIPS), 2019.
2. **Closed-loop Matters: Dual Regression Networks for Single Image Super-Resolution**
Yong Guo, Jian Chen, Jingdong Wang, Qi Chen, Jiezhong Cao, Zeshuai Deng, Yanwu Xu, Mingkui Tan
the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020.
3. **Breaking the Curse of Space Explosion: Towards Efficient NAS with Curriculum Search**
Yong Guo, Yafo Chen, Yin Zheng, Peilin Zhao, Jian Chen, Junzhou Huang, Mingkui Tan
International Conference on Machine Learning (ICML), 2020.
4. **Double Forward Propagation for Memorized Batch Normalization**
Yong Guo, Qingyao Wu, Chaorui Deng, Jian Chen, Mingkui Tan
AAAI Conference on Artificial Intelligence (AAAI), 2018. (*Oral Presentation*)
5. **Adversarial Learning with Local Coordinate Coding**
Jiezhong Cao*, **Yong Guo*** (co-first author), Qingyao Wu, Chunhua Shen, Junzhou Huang, Mingkui Tan
International Conference on Machine Learning (ICML), 2018. (*Oral Presentation*)
6. **Improving Generative Adversarial Networks with Local Coordinate Coding**
Jiezhong Cao*, **Yong Guo*** (co-first author), Qingyao Wu, Chunhua Shen, Junzhou Huang, Mingkui Tan
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2020.
7. **Auto-Embedding Generative Adversarial Networks for High Resolution Image Synthesis**
Yong Guo, Qi Chen, Jian Chen, Qingyao Wu, Qinfeng Shi, Mingkui Tan
IEEE Transactions on Multimedia (TMM), 2019.
8. **Multi-way Backpropagation for Training Compact Deep Neural Networks**
Yong Guo, Jian Chen, Qing Du, Anton Van Den Hengel, Qinfeng Shi, Mingkui Tan
Neural Networks, 2020.
9. **Hierarchical Neural Architecture Search for Single Image Super-Resolution**
Yong Guo, Yongsheng Luo, Zhenhao He, Jin Huang, Jian Chen
IEEE Signal Processing Letters (SPL), 2020.
10. **Discrimination-aware Channel Pruning for Deep Neural Networks**
Zhuangwei Zhuang, Mingkui Tan, Bohan Zhuang, Jing Liu, **Yong Guo**, Qingyao Wu, Junzhou Huang, Jinhui Zhu
Advances in Neural Information Processing Systems (NeurIPS), 2018.

11. **Deep View Synthesis via Self-Consistent Generative Network**
Zhuoman Liu, Wei Jia, Ming Yang, Peiyao Luo, Yong Guo, Mingkui Tan
IEEE Transactions on Multimedia (TMM), 2020.
12. **Dynamic Extension Nets for Few-shot Semantic Segmentation** (Leading three undergraduate students)
Lizhao Liu*, Junyi Cao*, Minqian Liu*, Yong Guo* (co-first author), Qi Chen, Mingkui Tan
ACM Multimedia (ACM MM), 2020.
13. **Online Feature Selection of Class Imbalance via PA Algorithm**
Chao Han, Yunkun Tan, Jinhui Zhu, Yong Guo, Jian Chen, Qingyao Wu
Journal of Computer Science and Technology (JCST), 2016.
14. **Towards Accurate and Compact Architectures via Neural Architecture Transformer**
Yong Guo, Yin Zheng, Mingkui Tan, Qi Chen, Zhipeng Li, Jian Chen, Peilin Zhao, Junzhou Huang
Submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2020. (Major Revision)

PROJECT EXPERIENCES

Tencent AutoML Platform – Neural Architecture Search Module

- Implement a set of popular neural architecture search methods and reproduce their results
- Devise a unified interface for selecting the desired method to automatically design good architectures
- Design an automatic model design pipeline from training data to the resultant architectures

Real-time Super-Resolution for Video Conferencing

- Develop channel pruning methods for super-resolution models
- Implement popular quantization methods to further compress super-resolution models
- Deploy the compressed models to hardware devices (*e.g.*, CPU and cell phones) for real-time video conferencing

AWARDS & HONORS

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| • MSRA Fellowship Nomination Award (Top 20 Ph.D. candidates in Asia) | 2018.10 |
| • Oral Presentation at International Conference on Machine Learning (ICML) in Stockholm | 2018.07 |
| • Oral Presentation at AAAI Conference on Artificial Intelligence in New Orleans | 2018.02 |
| • Excellent Doctoral Innovation Fund of South China University of Technology | 2019.01 |
| • National Scholarship (Receive Twice) | 2019.10 & 2020.10 |
| • Principle's Scholarship of South China University of Technology (Receive Twice) | 2019.10 & 2020.10 |
| • Award of Excellent Degree Dissertations of South China University of Technology | 2016.07 |

PROFESSIONAL SKILLS

- Excellent communication skills to present ideas/methods to audiences without professional knowledge
- Ability to collaborate with other researchers, including being supervised by senior researchers and leading junior students
- Logical thinking/analysis skills for method design and writing
- Strong programming skills in Python, particularly with PyTorch

INTERNATIONAL CONFERENCE/JOURNAL REVIEWER

NeurIPS, ICML, ICLR, TIP, AAAI, UAI, MICCAI, Neurocomputing