Resume

Yong Guo
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PARTICULARS

EDUCATION

South China University of Technology — Guangzhou, China
Ph. D. in Software Engineering — *Sep. 2016 - July. 2021 (expected)*

South China University of Technology — Guangzhou, China
B.A. in Software Engineering — *Sep. 2012 - July. 2016*

RESEARCH EXPERIENCES

Tencent AI Lab — Shenzhen, China
Intern in Machine Learning Group — *Oct. 2018 - Present*

RESEARCH INTERESTS

- **Neural Architecture Design**
  I focus on designing stable and efficient computational modules in deep networks, such as Memorized Batch Normalization (MBN, accepted by AAAI-18) and Content-aware Convolution (CAConv, submitted to TIP). Moreover, I also focus on designing efficient training algorithm, namely Multi-way Backpropagation (submitted to TNNLS). Besides designing architectures by hand, I also focus on *Neural Architecture Search (NAS)* that automate the manual process of architecture design. For example, we propose a Neural Architecture Transformer (NAT) to automatically improve the design of existing deep architectures. This work has been submitted to NeuralPS-19.
- **Generative Model**
  Generative adversarial networks (GANs) have attracted increasing attention and are shown to be useful for many practical problems under the settings of semi-supervised and unsupervised learning. I focus on designing effective generative models as well as data sampling method to obtain better performance of data generation. Up to now, I have one journal paper published in TMM and one conference paper published in ICML-18.
- **Image Super-Resolution**
  Image super-resolution is a long-standing problem in computer vision with many interesting applications. However, most SR models are designed for supervised super-resolution and perform poorly in real-world scenarios under the unsupervised setting, *i.e.*, no paired high-resolution images. To address this, I focus on designing efficient deep models to improve the performance of both supervised and unsupervised super-resolution (submitted to ICCV-19).

PUBLICATIONS

1. **Yong Guo**, Qi Chen, Jian Chen, Qingyao Wu, Qinfeng Shi, and Mingkui Tan. "Auto-Embedding Generative Adversarial Networks for High Resolution Image Synthesis". In *IEEE Transactions on Multimedia (TMM)*, 2019.
2. Jiezhang Cao, **Yong Guo** (co-first author), Qingyao Wu, Chunhua Shen, Junzhou Huang, Mingkui Tan*, "Adversarial Learning with Local Coordinate Coding". In *International Conference on Machine Learning (ICML)*, 2018. (*Oral presentation*)
3. **Yong Guo**, Qingyao Wu, Chaorui Deng, Jian Chen, Mingkui Tan*, "Double Forward Propagation for Memorized Batch Normalization". In *AAAI Conference on Artificial Intelligence (AAAI)*, 2018. (*Oral presentation*)
4. Zhuangwei Zhuang, Mingkui Tan, Bohan Zhuang, Jing Liu, **Yong Guo**, Qingyao Wu, Junzhou Huang, and Jinhui Zhu. "Discrimination-aware channel pruning for deep neural networks". In *Advances in Neural Information Processing Systems (NeuralPS)*, 2018.

5. Chao Han, Yunkun Tan, Jinhui Zhu, **Yong Guo**, Jian Chen, Qingyao Wu*, "Online Feature Selection of Class Imbalance via PA Algorithm". In *Journal of Computer Science and Technology*, 2016.
6. **Yong Guo**, Mingkui Tan*, Qingyao Wu, Jian Chen, Anton Van Den Hengel, Qinfeng Shi, "The shallow end: Empowering shallower deep-convolutional networks through auxiliary outputs". Under review in *IEEE Transactions on Neural Networks and Learning Systems (TNNLS).*
7. **Yong Guo**, Qi Chen, Jian Chen, Junzhou Huang, Yanwu Xu, Jiezhang Cao, Peilin Zhao, Mingkui Tan*, "Adaptable Image Super-Resolution with Primal-Dual Consistency". Under review in *International Conference on Computer Vision (ICCV)*, 2019.
8. **Yong Guo**, Yin Zheng, Mingkui Tan*, Qi Chen, Jian Chen, Peilin Zhao, Junzhou Huang, "NAT: Neural Architecture Transformer for Accurat eand Compact Architectures". Under review in *Advances in Neural Information Processing Systems (NeuralPS)*, 2019.

AWARDS & HONORS

- Excellent Doctoral Innovation Fund of South China University of Technology 2019.01
- MSRA Fellowship Nomination Award 2018.10
- Oral Presentation at International Conference on Machine Learning (to be held in Stockholm) 2018.07
- Oral Presentation at AAAI Conference on Artificial Intelligence in New Orleans 2018.02
- First-class Scholarship of South China University of Technology 2017.10
- Award of Excellent Degree Dissertations of South China University of Technology 2016.07
- Outstanding Students Award of South China University of Technology 2016.06
- Honorable Mention of MCM (Mathematical Contest In Modeling) 2015.05
- Excellent Students Leader Award of South China University of Technology 2014.09
- National Motivational scholarship 2013.09

INTERNATIONAL CONFERENCE/JOURNAL REVIEWER

NeuralPS, UAI, MICCAI, Neurocomputing

PROGRAMMING SKILLS

- Strong programming ability in Python
- Proficient in programming on PyTorch platform, including Python and C++/CUDA programming
- Familiar with other deep learning platforms, such as Tensorflow, Torch, Theano