

Hao Cheng

Researcher at Youtu Lab, Tencent

Email: louischeng@tencent.com; chenghao@shanghaitech.edu.cn

[Google Scholar](#)

EDUCATION

M.A. Communication and Information Systems, Chinese Academy of Sciences, 2019

B.S. Electronics Science and Technology, JiLin University, 2016

RESEARCH AREAS

(1) Understanding Neural Networks

- Understanding the working mechanism of DNN via information bottleneck.
- Understanding how network filters affect DNN training. The observation leads to efficient training and efficient pruning.

Publication on the related topic

- 2018 **Hao Cheng**, Dongze Lian, Shenghua Gao, Yanlin Geng. "Evaluating Capability of Deep Neural Networks for Image Classification via Information Plane" *ECCV2018*
- 2019 **Hao Cheng**, Dongze Lian, Shenghua Gao, Yanlin Geng. "Utilizing Information Bottleneck to Evaluate Capability of Deep Neural Networks for Image Classification" *entropy2019*
- 2020 Fanxu Meng*, **Hao Cheng***, Ke Li, Zhixin Xu, Rongrong Ji, Xing Sun, Guangming Lu. "Filter Grafting for Deep Neural Networks" *CVPR2020* (**first co-author, corresponding author**)
- 2020 Fanxu Meng*, **Hao Cheng***, Ke Li, Huixiang Luo, Xiaowei Guo, Guangming Lu, Xing Sun. "Pruning Filter in Filter" *NeurIPS2020* (**first co-author**)
- 2020 **Hao Cheng***, Fanxu Meng*, Ke Li, Huixiang Luo, Xing Sun, Xiaowei Guo, Feiyue Huang, Guangming Lu. "DGD: Densifying the Knowledge of Neural Networks with Filter Grafting and Knowledge Distillation" *under review* (* **denotes equal contribution**) [arxiv paper](#).

(2) Weakly Supervised Learning

- Learning with noisy labels
- Learning with unlabeled data

Publication on the related topic

- 2020 **Hao Cheng***, Zhaowei Zhu*, Xingyu Li, Yifei Gong, Xing Sun, Yang Liu. "Learning with instance dependent label noise: A Sample Sieve Approach" *under review* (* **denotes equal contribution**) [arxiv paper](#).
- 2020 Huixiang Luo*, **Hao Cheng***, Yuting Gao, Ke Li, Xiaowei Guo, Feiyue Huang, Xing Sun. "On the Consistency Training for Open-Set Semi-Supervised Learning" *to be reviewed* (**first co-author**)

(3) Other topics (not have much interest any more)

- Self-Paced Learning
- Person Re-identification

Publication on the related topic

- 2019 **Hao Cheng***, Dongze Lian*, Bowen Deng, Shenghua Gao, Tao Tan, Yanlin Geng. "Local to Global Learning: Gradually Adding Classes for Training Deep Neural Networks" *CVPR2019*
- 2020 Fengxiang Yang, Ke Li, Zhun Zhong, Xing Sun, **Hao Cheng**, Xiaowei Guo, Feiyue Huang, Rongrong Ji, Shaozi Li. "Asymmetric Co-Teaching for Unsupervised Cross-Domain Person Re-Identification" *AAAI2020*
- 2020 Shizhen Zhao, Changxin Gao, Jun Zhang, **Hao Cheng**, Chuchu Han, Xinyang Jiang, Xiaowei Guo, Weishi Zheng, Nong Sang, Xing Sun. "Do Not Disturb Me: Person Re-identification Under the Interference of Other Pedestrians" *ECCV2020*

Updated October 2020