Yizeng Han

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RESEARCH

My research focuses on machine learning and computer vision, in particular deep learning,

Interests efficient inference and dynamic neural networks.

EDUCATION Ph.D, Department of Automation, Tsinghua University 2018 - Present

Advisors: Shiji Song and Gao Huang (First author of DenseNet, CVPR 2017 Best paper)

B.S., Department of Automation, Tsinghua University 2014 - 2018

GPA Rank: 38/141

Research Intern, Megvii Technology 04/2023 - Present

EXPERIENCE Advisor: Xiangyu Zhang (Author of ResNet, CVPR 2016 Best paper)

Intern, Georgia Institute of Technology 06/2017 - 8/2017

Advisor: Gregory D Abowd

AWARDS & - National Scholarship, Ministry of Education of China 2022

- Comprehensive Merit Scholarship, Tsinghua University 2017 & 2016

- Academic Excellence Scholarship, Tsinghua University 2015

Publications & Preprints

HONORS

- 1. **Yizeng Han***, Gao Huang*, Shiji Song, Le Yang, Honghui Wang, Yulin Wang. Dynamic neural networks: a survey. *IEEE Transactions on Pattern Analysis and Machine Intellegence* (**TPAMI**), 2021.
- 2. **Yizeng Han***, Dongchen Han*, Zeyu Liu, Yulin Wang, Xuran Pan, Yifan Pu, Chao Deng, Junlan Feng, Shiji Song, Gao Huang. Dynamic Perceiver for Efficient Visual Recognition. *International Conference on Computer Vision* (**ICCV**), 2023.
- 3. **Yizeng Han***, Zhihang Yuan*, Yifan Pu*, Chenhao Xue, Shiji Song, Guangyu Sun, Gao Huang. Latency-aware Spatial-wise Dynamic Networks. *Conference on Neural Information Processing Systems* (**NeurIPS**), 2022.
- 4. **Yizeng Han***, Yifan Pu*, Zihang Lai, Chaofei Wang, Shiji Song, Junfeng Cao, Wenhui Huang, Chao Deng, Gao Huang. Learning to Weight Samples for Dynamic Early-exiting Networks. *European Conference on Computer Vision* (**ECCV**), 2022.
- 5. **Yizeng Han**, Gao Huang, Shiji Song, Le Yang, Yitian Zhang, Haojun Jiang. Spatially adaptive feature refinement for efficient inference. *IEEE Transactions on Image Processing* (**TIP**), 2021.
- 6. Le Yang*, **Yizeng Han***, Xi Chen, Shiji Song, Jifeng Dai, Gao Huang. Resolution adaptive networks for efficient inference. *Conference on Computer Vision and Pattern Recognition* (**CVPR**), 2020.
- 7. Yulin Wang, Zhaoxi Chen, Haojun Jiang, Shiji Song, **Yizeng Han**, G Huang. Adaptive Focus for Efficient Video Recognition. *International Conference on Computer Vision* (ICCV, Oral), 2021.

- 8. Chaofei Wang, Jiayu Xiao, **Yizeng Han**, Qisen Yang, Shiji Song, Gao Huang. Towards learning spatially discriminative feature representations. *International Conference on Computer Vision* (ICCV), 2021.
- Le Yang, Xiaoli Gong, Zhengwei Wu, Yizeng Han, Lijun He, Fan Li. Dark-channel mixed attention based neural networks for smoke detection in fog environment. ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), 2021.
- 10. Cheng Zhang, Qiuyue Xue, Anandghan Waghmare, Ruichen Meng, Sumeet Jain, Yizeng Han, Xinyu Li, Kenneth Cunefare, Thomas Ploetz, Thad Starner, Omer Inan, Gregory D Abowd. FingerPing: Recognizing fine-grained hand poses using active acoustic on-body sensing. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, 2018.
- Yifan Pu, Yiru Wang, Zhuofan Xia, Yizeng Han, Yulin Wang, Weihao Gan, Zidong Wang, Shiji Song, Gao Huang. Adaptive Rotated Convolution for Rotated Object Detection. *International Conference on Computer Vision* (ICCV), 2023.

* Equal contribution

| Invited Talks - | Alibaba Damo Academy, China | 10/2022 |
|-----------------|-----------------------------|---------|
| & - | Huawei Inc., China | 01/2022 |
| Presentations - | Jiqizhixin, China | 03/2021 |

RESEARCH PROJECTS

- Dynamic convolutional neural network and its interpretability for resource-constrained scenarios, Tsinghua University 2020 2022
- Da Vinci chip-friendly network architecture design, Tsinghua University 2020 2022
- Adaptive deep learning and visual methods, Tsinghua University 2019 2020

REVIEWING & Reviewer for

SERVICE

- IEEE Transactions on Pattern Analysis and Machine Intellegence (TPAMI)
- International Journal of Computer Vision (IJCV)
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
- International Conference on Machine Learning (ICML)
- Conference on Neural Information Processing Systems (NeurIPS)
- Conference on Computer Vision and Pattern Recognition (CVPR)
- International Conference on Computer Vision (ICCV)
- European Conference on Computer Vision (ECCV)
- Pattern Recognition (PR)
- International Conference on Image and Graphics (ICIG)