

# Yizeng Han

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CONTACT INFORMATION	616 Center Main Building, Tsinghua University, Beijing 100084, China	<i>Email:</i> hanyz18@mails.tsinghua.edu.cn <i>Phone:</i> (+86)18800127138 <i>Homepage:</i> <a href="http://www.yizenghan.top">www.yizenghan.top</a>
RESEARCH INTERESTS	My research focuses on deep learning and computer vision, in particular dynamic neural networks and efficient learning/inference of deep models in resource-constrained scenarios.	
EDUCATION	<b>Ph.D, Department of Automation, Tsinghua University</b> <i>Advisors:</i> Shiji Song and Gao Huang	<b>2018 - 2024</b>
	<b>B.S., Department of Automation, Tsinghua University</b> GPA Rank: 38/141	<b>2014 - 2018</b>
RESEARCH EXPERIENCE	<b>Intern, Megvii Technology</b> <i>Advisor:</i> Xiangyu Zhang	<b>04/2023 - 12/2023</b>
	<b>Intern, Georgia Institute of Technology</b> <i>Advisor:</i> Gregory D Abowd	<b>06/2017 - 8/2017</b>
AWARDS & HONORS	<ul style="list-style-type: none"><li>- Outstanding Graduate of Tsinghua University 2024</li><li>- Outstanding Graduate of Beijing 2024</li><li>- Outstanding Doctoral Dissertation of Tsinghua University 2024</li><li>- Comprehensive Excellence Scholarship, Tsinghua University 2023</li><li>- National Scholarship, Ministry of Education of China 2022</li><li>- Comprehensive Excellence Scholarship, Tsinghua University 2017</li><li>- Comprehensive Excellence Scholarship, Tsinghua University 2016</li><li>- Academic Excellence Scholarship, Tsinghua University 2015</li></ul>	
PUBLICATIONS	<ol style="list-style-type: none"><li>1. <b>Yizeng Han*</b>, Gao Huang*, Shiji Song, Le Yang, Honghui Wang, Yulin Wang. Dynamic neural networks: a survey. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i>, 2021.</li><li>2. <b>Yizeng Han*</b>, Zeyu Liu*, Zhihang Yuan*, Yifan Pu, Gao Huang, Shiji Song. Latency-aware Unified Dynamic Networks For Efficient Image Recognition. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i>, 2024.</li><li>3. <b>Yizeng Han</b>, Gao Huang, Shiji Song, Le Yang, Yitian Zhang, Haojun Jiang. Spatially adaptive feature refinement for efficient inference. <i>IEEE Transactions on Image Processing (TIP)</i>, 2021.</li><li>4. <b>Yizeng Han*</b>, Dongchen Han*, Zeyu Liu, Yulin Wang, Xuran Pan, Yifan Pu, Chao Deng, Junlan Feng, Shiji Song, Gao Huang. Dynamic Perceiver for Efficient Visual Recognition. <i>International Conference on Computer Vision (ICCV)</i>, 2023.</li></ol>	

5. **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.
6. **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.
7. 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.
8. Yifan Pu\*, **Yizeng Han\***, Yulin Wang, Junlan Feng, Chao Deng, Gao Huang. Fine-grained Recognition with Learnable Semantic Data Augmentation. *IEEE Transactions on Image Processing (TIP)*, 2023.
9. Chaoqun Du\*, **Yizeng Han\***, Gao Huang. SimPro: A Simple Probabilistic Framework Towards Realistic Long-Tailed Semi-Supervised Learning. *International Conference on Machine Learning (ICML)*, 2024.
10. Dongchen Han\*, Tianzhu Ye\*, **Yizeng Han**, Zhuofan Xia, Shiji Song, Gao Huang. Agent Transformer: On the Integration of Softmax and Linear Attention. *European Conference on Computer Vision (ECCV)*, 2024.
11. Jiangshan Wang, Yifan Pu, Yiru Wang, **Yizeng Han**, Jiayi Guo, Xiu Li, Gao Huang, GRA: Detecting Oriented Objects through Group-wise Rotating and Attention. *European Conference on Computer Vision (ECCV)*, 2024.
12. Le Yang, Ziwei Zheng, **Yizeng Han**, Hao Cheng, Shiji Song, Gao Huang, Fan Li. DyFADet: Dynamic Feature Aggregation for Temporal Action Detection. *European Conference on Computer Vision (ECCV)*, 2024.
13. Yifan Pu, Zhuofan Xia, Jiayi Guo, Dongchen Han, Qixiu Li, Duo Li, Yuhui Yuan, Ji Li, **Yizeng Han**, Shiji Song, Gao Huang, Xiu Li. Efficient Diffusion Transformer with Step-wise Dynamic Attention Mediators. *European Conference on Computer Vision (ECCV)*, 2024.
14. Zhuofan Xia, Dongchen Han, **Yizeng Han**, Xuran Pan, Shiji Song, Gao Huang. GSVA: Generalized Segmentation via Multimodal Large Language Models. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
15. Yong Xien Chng, Henry Zheng, **Yizeng Han**, Xuchong Qiu, Gao Huang. Mask Grounding for Referring Image Segmentation. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
16. Dongchen Han, Xuran Pan, **Yizeng Han**, Shiji Song, Gao Huang. FLatten Transformer: Vision Transformer using Focused Linear Attention. *International Conference on Computer Vision (ICCV)*, 2023.

17. 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.
18. Yulin Wang, Yang Yue, Rui Lu, **Yizeng Han**, Shiji Song, Gao Huang. EfficientTrain++: Generalized Curriculum Learning for Efficient Visual Backbone Training. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2024.
19. 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.
20. 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.
21. 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.
22. 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 CHI Conference on Human Factors in Computing Systems*, 2018.

#### SUBMISSIONS & PREPRINTS

1. Wangbo Zhao, Jiasheng Tang, **Yizeng Han**, Yibing Song, Kai Wang, Gao Huang, Fan Wang, Yang You. Dynamic tuning towards parameter and inference efficiency for vit adaptation. *In submission*.
2. Dongchen Han, Ziyi Wang, Zhuofan Xia, **Yizeng Han**, Yifan Pu, Chunjiang Ge, Jun Song, Shiji Song, Bo Zheng, Gao Huang. Demystify Mamba in Vision: A Linear Attention Perspective. Demystify Mamba in Vision: A Linear Attention Perspective. *In submission*.
3. Le Yang, Ziwei Zheng, **Yizeng Han**, Shiji Song, Gao Huang, Fan Li. OStr-DARTS: Differentiable Neural Architecture Search based on Operation Strength. *In submission*.

#### \* Equal contribution

INVITED	- Alibaba Damo Academy, China	10/2022
TALKS &	- Huawei Inc., China	01/2022
PRESENTATIONS	Jiqizhixin, China	03/2021

RESEARCH PROJECTS	- Dynamic neural network and its interpretability for resource-constrained scenarios, Tsinghua University	2020 - 2022
	- 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 Intelligence (TPAMI)
	- International Journal of Computer Vision (IJCV)
	- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
	- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
	- International Conference on Machine Learning (ICML)
	- Conference on Neural Information Processing Systems (NeurIPS)
	- International Conference on Learning Representations (ICLR)
	- 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)