

# HAORAN YOU

Tel.: +1-281-236-1978    Email: haoran.you@gatech.edu    Profile: [Homepage](#); [Linkedin](#); [Github](#)

## EDUCATION

---

<b>Georgia Institute of Technology</b> <i>Transferred Ph.D. supervised by Prof. Yingyan Lin, Computer Science (CS)</i>	Atlanta, Georgia Dec. 2022 - Present
<b>Rice University</b> <i>M.S. supervised by Prof. Yingyan Lin, Electrical and Computer Engineering (ECE)</i>	Houston, Texas Sep. 2019 - Dec. 2022
<b>Huazhong University of Science and Technology (HUST)</b> <i>Bachelor of Electronic Information Engineering</i>	Wuhan, China Sep. 2015 - Jul. 2019

## RESEARCH INTERESTS

---

- Efficient and Automated Machine Learning (ICML, NeurIPS, ICLR, AAAI, CVPR, ECCV, TNNLS, TMLR)
- Algorithm and Hardware Accelerator Co-Design (ISCA, HPCA, MICRO, ICCAD, ISLPED)

## PUBLICATIONS

---

- **H. You**, C. Li, P. Xu, Y. Fu, Y. Wang, X. Chen, R.G. Baraniuk, Z. Wang, Y. Lin.  
*[Selected as an ICLR Spotlight !](#)*  
Drawing Early-Bird Tickets: Towards More Efficient Training of Deep Networks. **ICLR 2020 Spotlight Oral**
- **H. You**, Z. Sun, H. Shi, Z. Yu, Y. Zhao, Y. Zhang, C. Li, B. Li, Y. Lin.  
*[Selected as the Meta Faculty Research Award of 2022 !](#)*  
ViTCoD: Vision Transformer Acceleration via Dedicated Algorithm and Accelerator Co-Design. **HPCA 2023**
- **H. You**, X. Chen, Y. Zhang, C. Li, S. Li, Z. Liu, Z. Wang, Y. Lin  
ShiftAddNet: A Hardware-Inspired Deep Network. **NeurIPS 2020**
- **H. You**, B. Li, H. Shi, Y. Lin  
ShiftAddNAS: Hardware-Inspired Search for More Accurate and Efficient Neural Networks. **ICML 2022**
- **H. You**, B. Li, Z. Sun, X. Ouyang, Y. Lin  
SuperTickets: Drawing Task-Agnostic Lottery Tickets from Supernet via Jointly Searching and Pruning. **ECCV 2022**
- **H. You**, Z. Lu, Z. Zhou, Y. Fu, Y. Lin.  
Early-Bird GCNs: Graph-Network Co-Optimization Towards More Efficient GCN Training and Inference. **AAAI 2022**
- **H. You**, T. Geng, Y. Zhang, A. Li, Y. Lin.  
GCoD: Graph Convolutional Network Acceleration via Dedicated Algorithm and Accelerator Co-Design. **HPCA 2022**
- **H. You**, Y. Zhao, Z. Yu, C. Wan, Y. Fu, C. Li, S. Zhang, S. Wu, J. Yuan, Y. Zhang, Vivek B., Ashok V., Z. Li, Y. Lin.  
*[Selected as the IEEE Micro's Top Pick of 2023 !](#)*  
EyeCoD: Eye Tracking System Acceleration via FlatCam-Based Algorithm and Accelerator Co-Design. **ISCA 2022**
- **H. You**, Y. Xiong, X. Dai, B. Wu, P. Zhang, H. Fan, P. Vajda, Y. Lin.  
Castling-ViT: Compressing Attention via Switching Towards Linear-Angular Attention at ViT Inference. **CVPR 2023**
- **H. You**, R. Balestriero, Z. Lu, Y. Kou, Y. Lin, R.G. Baraniuk.  
Max-Affine Spline Insights Into Deep Network Pruning. **TMLR 2022**

- **H. You**, Y. Cheng, T. Cheng, C. Li, P. Zhou.  
Bayesian Cycle-Consistent GANs via Marginalizing Latent Sampling. **IEEE TNNLS**
- **H. You**, T. Geng, C. Wan, Q. An, Y. Zhang, Z. Lu, Y. Sun, C. Li, Y. Zhao, Y. Lin.  
HA-GCN: Hardware-Aware Graph Convolutional Networks Compression. **Under Review**
- Y. Fu, **H. You**, Y. Zhao, Y. Wang, C. Li, K. Gopalakrishnan, Z. Wang, Y. Lin.  
FracTrain: Fractionally Squeezing Bit Savings Both Temporally and Spatially for Efficient DNN Training. **NeurIPS 2020**
- H. Shi, **H. You**, Y. Zhao, Z. Wang, Y. Lin.  
NASA: Neural Architecture Search and Acceleration for Hardware Inspired Hybrid Networks. **ICCAD 2022**
- Y. Zhang, **H. You**, Y. Fu, T. Geng, A. Li, Y. Lin  
G-CoS: GNN-Accelerator Co-Search Towards Both Better Accuracy and Efficiency. **ICCAD 2021**
- C. Li, T. Chen, **H. You**, Z. Wang, Y. Lin.  
HALO: Hardware-Aware Learning to Optimize. **ECCV 2020**
- Y. Zhao, Z. Li, **H. You**, Y. Fu, Y. Zhang, C. Li, C. Wan, S. Wu, X. Ouyang, V. Boominathan, A. Veeraraghavan, Y. Lin.  
*Won the first place in University Best Demonstration at DAC 2022 !*  
i-FlatCam: A 253 FPS, 91.49  $\mu$ J/Frame Ultra-Compact Intelligent Lensless Camera System for Eye Tracking. **VLSI 2022**
- Y. Zhao, X. Chen, Y. Wang, C. Li, **H. You**, Y. Fu, Y. Xie, Z. Wang, Y. Lin.  
SmartExchange: Trading Higher-cost Memory Storage/Access for Lower-cost Computation. **ISCA 2020**
- T. Geng, C. Wu, Y. Zhang, C. Tan, C. Xie, **H. You**, M. Herbordt, Y. Lin, A. Li  
I-GCN: A GCN Accelerator with Runtime Locality Enhancement through Islandization. **MICRO 2021**
- X. Chen, Y. Zhao, Y. Wang, P. Xu, **H. You**, C. Li, Y. Fu, Y. Lin, Z. Wang  
SmartDeal: Re-Modeling Deep Network Weights for Efficient Inference and Training. **IEEE TNNLS**
- Y. Zhang, Y. Fu, W. Jiang, C. Li, **H. You**, M. Li, V. Chandra, Y. Lin  
DIAN: differentiable accelerator-network co-search towards maximal DNN efficiency. **ISLPED 2021**
- C. Li, Z. Yu, Y. Fu, Y. Zhang, Y. Zhao, **H. You**, Q. Yu, Y. Wang, C. Hao, Y. Lin.  
HW-NAS-Bench: Hardware-Aware Neural Architecture Search Benchmark. **ICLR 2021 Spotlight Oral**
- Y. Fu, Z. Ye, J. Yuan, S. Zhang, S. Li, **H. You**, Y. Lin.  
Gen-NeRF: Efficient and Generalizable Neural Radiance Fields via Algorithm-Hardware Co-Design. **ISCA 2023**
- S. Li, C. Li, W. Zhu, B. Yu, Y. Zhao, C. Wan, **H. You**, H. Shi, Y. Lin  
Instant-3D: Instant Neural Radiance Fields Training Towards Real-Time AR/VR 3D Reconstruction. **ISCA 2023**

## RESEARCH EXPERIENCE

<b>EIC Lab, Georgia Institute of Technology, Atlanta, Georgia</b> <i>Under the instruction of Prof. Yingyan Lin</i>	Dec. 2022 - Present
<b>EIC Lab, Rice University, Houston, Texas</b> <i>Under the instruction of Prof. Yingyan Lin</i>	Sep. 2019 - Dec. 2022
<b>Meta, Burlingame, California</b> <i>Under the instruction of Dr. Peizhao Zhang, Dr. Xiaoliang Dai, Dr. Bichen Wu</i>	May. 2022 - Dec. 2022
<b>Baidu USA, Sunnyvale, California</b> <i>Under the instruction of Dr. Baopu Li</i>	May. 2021 - Dec. 2021
<b>WNLO &amp; Microsoft, Wuhan, China</b> <i>Under the instruction of Dr. Yu Cheng and Prof. Pan Zhou</i>	Jan. 2018 - Dec. 2018

## SELECTED AWARDS

---

- Haoran was selected as one of the ML and Systems Rising Stars of 2023 ! May. 2023
- Haoran won the Best Poster Award at the SCS Poster Competition of GaTech ! Apr. 2023
- Haoran was selected by GaTech to receive the Outstanding Graduate Research Assistant Award ! Mar. 2023
- EyeCoD (ISCA'22) was selected for being the IEEE Micro's Top Pick of 2023 ! Jan. 2023
- HPCA 2023 Student Travel Grant ! 2022 - 2023
- Haoran got PhD Growth Annual Rock Star Award in EIC Lab ! 2022 - 2023
- ViTCoD (HPCA'23) was selected for Meta Faculty Research Award of 2022 ! Nov. 2022
- Our i-FlatCam won First Place in University Demo Best Demonstration at DAC Conference ! Jul. 2022
- ISCA 2022 Student Travel Grant ! Jun. 2022
- Samsung Scholarship ! 2017 - 2018
- International Interdisciplinary Contest in Modeling (ICM), Meritorious Winner ! Apr. 2018
- Selected as *Outstanding Undergraduates in Term of Academic Performance*, (HUST 1%) ! Dec. 2017
- The Eighth Chinese Mathematics Competition (CMC), First Prize (China 5%) ! Nov. 2016

## CONFERENCE PRESENTATION

---

- The 29th International Symposium on High-Performance Computer Architecture (HPCA), 2023 [Link]
- European Conference on Computer Vision (ECCV), 2022 [Link]
- The 49th International Symposium on Computer Architecture (ISCA), 2022 [Link]
- The 39th International Conference on Machine Learning (ICML), 2022 [Link]
- The 28th International Symposium on High-Performance Computer Architecture (HPCA), 2022 [Link]
- The 36th AAAI Conference on Artificial Intelligence (AAAI), 2022 [Link]
- Ken Kennedy AI and Data Science Conference, 2021 [Link]
- The 8th International Conference on Learning Representations (ICLR), 2020 [Link]
- The 34th Conference on Neural Information Processing Systems (NeurIPS), 2020 [Link]

## INVITED TALKS

---

- Invited Speaker at UT Austin Energy-Aware Computing Group, 2023 [Link]
- Invited Speaker at the Tutorial in Asian Conference on Computer Vision, 2022 [Link]

## PC OR REVIEWER SERVICES

---

- 2023: ICLR; CVPR; MLSys; ICML; ICCV; NeurIPS; IEEE TCAS-II
- 2022: CVPR; ICML; ICLR; NeurIPS; ECCV; AAAI; JCST;
- 2021: ICML; NeurIPS; ICLR; MLSys; IEEE TNNLS;
- 2020: ICML; ICLR; CVPR;

## MENTORING EXPERIENCE

---

- Huihong Shi (Ph.D. Student), Published two 1st author ICCAD'22 and TCAS-I journal papers, two 2nd author ICML'22 and HPCA'23 papers, and co-authored one TMLR journal paper, Next move: PhD@NanJing University
- Zhanyi Sun (B.S. Student), Published two 2nd author HPCA'23 and ECCV'22 papers, Next move: MS@CMU
- Zhihan Lu (B.S. Student), Published two 2nd author AAAI'22 and TMLR journal paper, Next move: MS@CMU
- Shang Wu (M.S. Student), Published co-authored ISCA'22/TMLR, Next move: PhD@Northwestern University

- Xu Ouyang (M.S. Student), Published one co-authored ECCV'22 paper, Next move: PhD@University of Virginia
- Zijian Zhou (B.S. Student), Published one co-authored AAAI'22 paper, Next move: MS@Rice University
- Yi Sun (B.S. Student), Submitted a co-authored paper, Next move: MS@CMU
- Yutong Kou (B.S. Student), Submitted a co-authored paper, Next move: PhD@HUST