# Hongxu (Danny) Yin

☑ dannyy@nvidia.com • ♦ https://hongxu-yin.github.io/ • Google Scholar

## Summary

I'm a Tech Lead & Principal Research Scientist at NVIDIA, focusing on efficient multimodal intelligence.

I lead NVIDIA's multimodal herd of VILA VLMs launched at GTC, overseeing pre/post-training (VILA-1.5, NVILA, etc.), agent (VILA-Robot navigation/manipulation, VILA-Medical, VILA-4K, etc.), functionality (Spatial, Temporal, etc.), and reasoning (LongVILA-R1, etc.), with full-stack optimization for NVIDIA GPU/Jetson/Thor.

My experience also includes key research roles in LLM (Nemotron-H, Flextron), vision encoder (RADIO series), finetuning (DoRA, EoRA), transformer acceleration and distillation (A-ViT, NViT, Inversion series, etc.).

## Experience

#### **NVIDIA** Research

Tech Lead & Principal Research Scientist, Learning and Perception Research (LPR)

Apr. 2020 - Now

#### **NVIDIA Research**

Research Intern, Learning and Perception Research (LPR)

May 2019 - Nov. 2019

#### Alibaba U.S.

Research Intern, Machine Learning Team

May 2018 - Nov. 2018

## **Education**

#### **Princeton University**

Ph.D. in Computer Engineering

New Jersey, USA

2015 - 2020

Research focus: Efficient Deep Learning

#### Nanyang Technological University

Singapore, SG

B.Eng in Electronic & Electronics Engineering (GPA 3.9/4.0, dean's lister all four years)

2011 - 2015

Minor in Business (GPA 4.0/4.0)

#### **Conference Publications**

(\*: equal contribution; †: my intern; ¢: co-lead)

60. Ji Lin<sup>†</sup>\*, **Hongxu Yin**\*, Wei Ping, Yao Lu, Pavlo Molchanov, Andrew Tao, Huizi Mao, Jan Kautz, Mohammad Shoeybi, Song Han

VILA: On pre-training for visual language models

Conference on Computer Vision and Pattern Recognition (CVPR)

59. Baifeng Shi<sup>†</sup>, Boyi Li, Han Cai, Yao Lu, Sifei Liu, Marco Pavone, Jan Kautz, Song Han, Trevor Darrell, Pavlo Molchanov, **Hongxu Yin** 

VILA-HD: Scaling vision pre-training to 4K resolution

Conference on Computer Vision and Pattern Recognition (CVPR)

(Highlight Paper)

58. Zhijian Liu, Ligeng Zhu, Baifeng Shi, Zhuoyang Zhang, Yuming Lou, Shang Yang, Haocheng Xi, Shiyi Cao, Yuxian Gu, Dacheng Li, Xiuyu Li, Haotian Tang, Yunhao Fang, Yukang Chen, Cheng-Yu Hsieh, De-An Huang, An-Chieh Cheng, Jinyi Hu, Sifei Liu, Ranjay Krishna, Pavlo Molchanov, Jan Kautz, **Hongxu Yin**, Song Han, Yao Lu

NVILA: Efficient frontier visual language models

Conference on Computer Vision and Pattern Recognition (CVPR)

57. An-Chieh Cheng, Yandong Ji, Zhaojing Yang, Zaitian Gongye, Xueyan Zou, Jan Kautz, Erdem Bıyık, **Hongxu** Yin<sup>\( \)</sup>, Sifei Liu<sup>\( \)</sup>, Xiaolong Wang<sup>\( \)</sup>

NaVILA: Legged Robot Vision-Language-Action Model for Navigation

Robotics: Science and Systems (RSS)

56. An-Chieh Cheng<sup>†</sup>, **Hongxu Yin**, Yang Fu, Qiushan Guo, Ruihan Yang, Jan Kautz, Xiaolong Wang, Sifei Liu *SpatialRGPT: Grounded spatial reasoning in vision language model*Advances in Neural Information Processing Systems (NeurIPS)

55. Yunhao Fang<sup>†\*</sup>, Ligeng Zhu<sup>\*</sup>, Yao Lu, Yan Wang, Pavlo Molchanov, Jang Hyun Cho, Marco Pavone, Song Han, **Hongxu Yin** 

VILA<sup>2</sup>: VILA augmented VILA

International Conference on Computer Vision (ICCV) – CDEL Workshop (Oral Presentation)

54. Yitong Jiang, Jinwei Gu, Tianfan Xue, Ka Chun Cheung, Pavlo Molchanov, **Hongxu Yin**<sup>\dighta</sup>, Sifei Liu<sup>\dighta</sup> *Token-Efficient VLM: High-resolution image understanding via dynamic region proposal* International Conference on Computer Vision (ICCV)

(Highlight Paper)

53. Hongjun Wang, yitong jiang, David Wehr, Hanrong Ye, Xinhao Li, Ka Chun Cheung, Kai Han, **Hongxu Yin**, Pavlo Molchanov, Sifei Liu, Wonmin Byeon, Collin McCarthy, Jinwei Gu, Jan Kautz, Ke Chen *GSPN-2: Efficient parallel sequence modeling* 

Advances in Neural Information Processing Systems (NeurIPS)

52. Yukang Chen, Wei Huang, Baifeng Shi, Qinghao Hu, Hanrong Ye, Ligeng Zhu, Zhijian Liu, Pavlo Molchanov, Jan Kautz, Xiaojuan Qi, Sifei Liu, **Hongxu Yin**, Yao Lu, Song Han *Scaling RL to long videos* 

Advances in Neural Information Processing Systems (NeurIPS)

51. Dacheng Li, Yunhao Fang, Yukang Chen, Shuo Yang, Shiyi Cao, Justin Wong, Michael Luo, Xiaolong Wang, Hongxu Yin, Joseph E. Gonzalez, Ion Stoica, Song Han, Yao Lu WorldModelBench: Judging video generation models as world models Advances in Neural Information Processing Systems (NeurIPS)

50. Shizhe Diao, Yu Yang, Yonggan Fu, Xin Dong, Dan SU, Markus Kliegl, ZIJIA CHEN, Peter Belcak, Yoshi Suhara, **Hongxu Yin**, Mostofa Patwary, Yingyan Celine Lin, Jan Kautz, Pavlo Molchanov CLIMB: Clustering-based iterative data mixture bootstrapping for language model pre-training Advances in Neural Information Processing Systems (NeurIPS)

(Spotlight Paper)

49. Greg Heinrich, Mike Ranzinger, **Hongxu Yin**, Yao Lu, Jan Kautz, Bryan Catanzaro, Andrew Tao, Pavlo Molchanov

RADIO Amplified: Improved baselines for agglomerative vision foundation models Conference on Computer Vision and Pattern Recognition (CVPR)

48. Vishwesh Nath, Wenqi Li, Dong Yang, Andriy Myronenko, Yao Lu, Zhijian Liu, **Hongxu Yin**, Yucheng Tang, Pengfei Guo, Ziyue Xu, Can Zhao, Yufan He, Greg Heinrich, Mingxin Zheng, Benjamin D. Simon, Stephanie Anne Harmon, Michael Zephyr, Marc Edgar, Stephen R. Aylward, Pavlo Molchanov, Yan Mee Law, Baris Turkbey, Holger R Roth, Daguang Xu

VILA-M3: Enhancing vision-language models with medical expert knowledge Conference on Computer Vision and Pattern Recognition (CVPR)

(Highlight Paper)

47. Yecheng Wu, Zhuoyang Zhang, Junyu Chen, Haotian Tang, Dacheng Li, Yunhao Fang, Ligeng Zhu, Enze Xie, **Hongxu Yin**, Li Yi, Song Han, Yao Lu

VILA-U: A unified foundation model integrating visual understanding and generation International Conference on Learning Representations (ICLR)

46. Fuzhao Xue<sup>†\*</sup>, Yukang Chen<sup>†\*</sup>, Dacheng Li<sup>†\*</sup>, Qinghao Hu<sup>†\*</sup>, Ligeng Zhu, Xiuyu Li, Yunhao Fang, Haotian Tang, Shang Yang, Zhijian Liu, Ethan He, **Hongxu Yin**, Pavlo Molchanov, Jan Kautz, Linxi Fan, Yuke Zhu, Yao Lu, Song Han

Long VILA: Scaling long-context visual language models for long videos International Conference on Learning Representations (ICLR)

45. Min Shi, Fuxiao Liu, Shihao Wang, Shijia Liao, Subhashree Radhakrishnan, De-An Huang, **Hongxu Yin**, Karan Sapra, Yaser Yacoob, Humphrey Shi, Bryan Catanzaro, Andrew Tao, Jan Kautz, Zhiding Yu, Guilin Liu

*EAGLE: Exploring the design space for multimodal LLMs with mixture of encoders* International Conference on Learning Representations (ICLR)

(Spotlight Paper)

44. Ruisi Cai, Saurav Muralidharan, **Hongxu Yin**, Zhangyang Wang, Jan Kautz, Pavlo Molchanov *LLaMaFlex: Many-in-one LLMs via generalized pruning and weight sharing* International Conference on Learning Representations (ICLR)

43. Gongfan Fang<sup>†</sup>, **Hongxu Yin**, Saurav Muralidharan, Greg Heinrich, Jeff Pool, Jan Kautz, Pavlo Molchanov, Xinchao Wang

MaskLLM: Learnable semi-structured sparsity for large language models Advances in Neural Information Processing Systems (NeurIPS) (Spotlight Paper)

42. Qiushan Guo<sup>†</sup>, Shalini De Mello\*, **Hongxu Yin**\*, Wonmin Byeon, Ka Chun Cheung, Yizhou Yu, Ping Luo, Sifei Liu

RegionGPT: Towards region understanding vision language model Conference on Computer Vision and Pattern Recognition (CVPR)

41. Shih-Yang Liu<sup>†</sup>, Chien-Yi Wang, **Hongxu Yin**, Pavlo Molchanov, Yu-Chiang Frank Wang, Kwang-Ting Cheng, Min-Hung Chen

DoRA: Weight-decomposed low-rank adaptation
International Conference on Machine Learning (ICML)
(Oral Presentation)

40. Jingwen Sun<sup>†</sup>, Ziyue Xu, Hongxu Yin, Dong Yang, Daguang Xu, Yiran Chen, Holger R. Roth FedBPT: Efficient federated black-box prompt tuning for large language models International Conference on Machine Learning (ICML) AAAI Symposium (Best Paper Award)

39. Ruisi Cai<sup>†</sup>, Saurav Muralidharan, Greg Henrich, **Hongxu Yin**, Zhangyang Wang, Jan Kaut, Pavlo Molchanov FlexTron: Many-in-One flexible large language models
International Conference on Machine Learning (ICML)
(Oral Presentation)

38. De-an Huang, Shijia Liao, Subhashree Radhakrishnan, **Hongxu Yin**, Pavlo Molchanov, Zhiding Yu, Jan Kautz *LITA: Language instructed temporal-localization assistant* European Conference on Computer Vision (ECCV)

37. Anna Bair<sup>†</sup>, **Hongxu Yin**, Maying Shen, Pavlo Molchanov, Jose M. Alvarez *Adaptive sharpness-aware pruning for robust sparse networks* International Conference on Learning Representations (ICLR)

36. Ali Hatamizadeh, Greg Heinrich, **Hongxu Yin**, Andrew Tao, Jose M. Alvarez, Jan Kautz, Pavlo Molchanov *FasterViT: Fast vision transformers with hierarchical attention*International Conference on Learning Representations (ICLR)

35. Xinlong Sun<sup>†</sup>, Maying Shen, **Hongxu Yin**, Lei Mao, Pavlo Molchanov, Jose M Alvarez *Advancing weight and channel sparsification with enhanced saliency* Winter Conference on Applications of Computer Vision (WACV)

34. Jiaming Song, Qinsheng Zhang, **Hongxu Yin**, Morteza Mardani, Ming-yu Liu, Jan Kautz, Yongxin Chen, Arash Vahdat

Loss-guided diffusion models for Plug-and-Play controllable generation International Conference on Machine Learning (ICML)

33. Ali Hatamizadeh, **Hongxu Yin**, Jan Kautz, Pavlo Molchanov *Global context vision transformer* International Conference on Machine Learning (ICML)

Divyam Madaan<sup>†</sup>, Hongxu Yin, Wonmin Byeon, Jan Kautz, Pavlo Molchanov Heterogeneous continual learning
 Conference on Computer Vision and Pattern Recognition (CVPR)
 (Highlight Paper)

31. Huanrui Yang $^{\dagger}$ , **Hongxu Yin**, Pavlo Molchanov, Hai Li, Jan Kautz *NViT: Vision transformer compression and parameter redistribution* Conference on Computer Vision and Pattern Recognition (CVPR)

30. Paul Micaelli<sup>†</sup>, Pavlo Molchanov, Arash Vahdat, **Hongxu Yin**, Jan Kautz *Recurrence without recurrence: stable video landmark detection with deep equilibrium models* Conference on Computer Vision and Pattern Recognition (CVPR)

29. Xin Dong<sup>†</sup>, **Hongxu Yin**, Jose Alvarez, Jan Kautz, Pavlo Molchanov *Privacy vulnerability of split computing to data-free model inversion attacks* British Machine Vision Conference (BMVC)

28. Maying Shen\*, **Hongxu Yin\***, Pavlo Molchanov, Lei Mao, Jianna Liu, Jose Alvarez *Structural pruning via latency-saliency Knapsack* 

Advances in Neural Information Processing Systems (NeurIPS)

27. Hongxu Yin, Arash Vahdat, Jose Alvarez, Arun Mallya, Jan Kautz, Pavlo Molchanov A-ViT: Adaptive tokens for efficient vision transformer Conference on Computer Vision and Pattern Recognition (CVPR) (Oral Presentation)

26. Ali Hatamizadeh\*, **Hongxu Yin\***, Holger Roth, Wenqi Li, Jan Kautz, Daguang Xu, Pavlo Molchanov *GradViT: Gradient inversion of vision transformers*Conference on Computer Vision and Pattern Recognition (CVPR)

25. Maying Shen, Pavlo Molchanov, **Hongxu Yin**, Jose Alvarez When to prune? A policy towards early structural pruning Conference on Computer Vision and Pattern Recognition (CVPR)

 Pavlo Molchanov\*, Jimmy Hall\*, Hongxu Yin\*, Jan Kautz, Nicolo Fusi, Arash Vahdat HANT: Hardware-aware network transformation European Conference on Computer Vision (ECCV), 2022

23. **Hongxu Yin**, Arun Mallya, Arash Vahdat, Jose Alvarez, Jan Kautz, Pavlo Molchanov *See through gradients: Image batch recovery via GradInversion*Conference on Computer Vision and Pattern Recognition (CVPR)

22. Yerlan Idelbayev<sup>†</sup>, Pavlo Molchanov, Maying Shen, **Hongxu Yin**, M. C. Perpinan, Jose Alvarez *Optimal quantization using scaled codebook*Conference on Computer Vision and Pattern Recognition (CVPR)

21. Akshay Chawla<sup>†</sup>, **Hongxu Yin**, Pavlo Molchanov, Jose Alvarez *Data-free knowledge distillation for object detection* Winter Conference on Applications of Computer Vision (WACV)

 Hongxu Yin, Arun Mallya, Arash Vahdat, Jose Alvarez, Jan Kautz, Pavlo Molchanov Dreaming to distill: Data-free knowledge transfer via DeepInversion Conference on Computer Vision and Pattern Recognition (CVPR) (Oral Presentation)

19. Wenhan Xia, **Hongxu Yin**, Niraj K. Jha *Efficient synthesis of compact deep neural networks* IEEE Design Automation Conference (DAC)

18. Xiaoliang Dai, Peizhao Zhang, Bichen Wu, **Hongxu Yin**, Fei Sun, Yanghan Wang, Marat Dukhan, Yunqing Hu, Yiming Wu, Yangqing Jia, Peter Vajda, Matt Uyttendaele, Niraj K. Jha *ChamNet: Towards efficient network design through platform-aware model adaptation* Conference on Computer Vision and Pattern Recognition (CVPR)

17. Ozge Akmandor, **Hongxu Yin**, and Niraj K. Jha *Simultaneously ensuring smartness, security, and energy efficiency in Internet-of-Things sensors* IEEE Custom Integrated Circuits Conference (CICC)

16. **Hongxu Yin**, Bah Hwee Gwee, Zhiping Lin, Kumar Anil, Galul R. Sirajudeen, and Choo M. S. See *Novel real-time system design for floating-point sub-Nyquist multi-coset signal blind reconstruction* IEEE Int. Symp. on Circuits and Systems (ISCAS) (Oral Presentation)

# **Journal Publications**

15. Ali Hatamizadeh, **Hongxu Yin**, Pavlo Molchanov, Andriy Myronenko, Wenqi Li, Prerna Dogra, Andrew Feng, Mona G Flores, Jan Kautz, Daguang Xu, Holger R. Roth *Do gradient inversion attacks make federated learning unsafe?*IEEE Transactions on Medical Imaging

14. Shayan Hassantabar, Joe Zhang, **Hongxu Yin**, Niraj K. Jha MHDeep: Mental health disorder detection system based on body-area and deep neural networks ACM Transactions on Embedded Computing Systems

13. **Hongxu Yin**, Guoyang Chen, Yingmin Li, Shuai Che, Weifeng Zhang, and Niraj K. Jha *Hardware-guided symbiotic training for compact, accurate, yet execution-efficient LSTMs* IEEE Trans. Emerging Topics in Computing

#### 12. Wenhan Xia, Hongxu Yin, Xiaoliang Dai, Niraj K. Jha

Fully dynamic inference with deep neural networks

IEEE Trans. Emerging Topics in Computing

## 11. Xiaoliang Dai\*, Hongxu Yin\*, and Niraj K. Jha

Grow and prune compact, fast, and accurate LSTMs

IEEE Trans. Computers

#### 10. Hongxu Yin, Bilal Mukadam, Xiaoliang Dai, and Niraj K. Jha

*DiabDeep: Pervasive diabetes diagnosis based on wearable medical sensors and efficient neural networks* IEEE Trans. Emerging Topics in Computing

#### 9. Xiaoliang Dai, Hongxu Yin, and Niraj K. Jha

*Incremental learning using a grow-and-prune paradigm with efficient neural networks* IEEE Trans. Computers

#### 8. Xiaoliang Dai, Hongxu Yin, and Niraj K. Jha

NeST: A neural network synthesis tool based on a grow-and-prune paradigm

IEEE Trans. Computers

#### 7. Hongxu Yin, Zeyu Wang, and Niraj K. Jha

A hierarchical inference model for Internet-of-Things

IEEE Trans. Multi-scale Computing Systems

#### 6. **Hongxu Yin** and Niraj K. Jha

A health decision support system for disease diagnosis based on wearable medical sensors and machine learning ensembles IEEE Trans. Multi-scale Computing Systems

#### 5. Ozge Akmandor, Hongxu Yin and Niraj K. Jha

Smart, secure, yet energy-efficient, Internet-of-Things sensors

IEEE Trans. Multi-scale Computing Systems

# **Technical Report**

4. NVIDIA Corporation

Nemotron-H: A family of accurate and efficient hybrid mamba-transformer models Technical Report

# **Book Chapter**

3. Hongxu Yin, Ozge Akmandor, Arsalan Mosenia, and Niraj K. Jha

Smart healthcare

Foundations and Trends

## **Preprint**

2. Hanrong Ye<sup>†</sup>, De-An Huang, Yao Lu, Zhiding Yu, Wei Ping, Andrew Tao, Jan Kautz, Song Han, Dan Xu, Pavlo Molchanov, **Hongxu Yin** 

X-VILA: Cross-modality alignment for large language model preprint

1. Ruihan Yang, Qinxi Yu, Yecheng Wu, Rui Yan, Borui Li, An-Chieh Cheng, Xueyan Zou, Yunhao Fang, Xuxin Cheng, Ri-Zhao Qiu, **Hongxu Yin**, Sifei Liu, Song Han, Yao Lu, Xiaolong Wang

*EgoVLA: Learning vision-language-action models from egocentric human videos* preprint

## **Selected Awards**

- $\circ\,$  36 Kr Top 100 Global Outstanding Chinese Awards
- o Forbes Top 60 Elite Chinese North America
- o Princeton ECE Best Dissertation Award Finalist (Top-3 in department)

- o Princeton Yan Huo \*94 Fellowship (Top-3 in department)
- o Princeton Natural Science and Foundation Fellowship
- o Gold Medal Defense Science and Technology
- o Gold Medal Thomas Asia Pacific Holdings
- $\circ\,$  Department Dean's Lister Award
- o Nanyang Best Industrial Orientation Award
- o Nanyang Presidential Scholar with Highest Distinction

# **Workshop & Tutorial Organizer**

<ul> <li>Efficient Computer Vision Workshop</li> <li>CVPR 2025</li> </ul>	2025				
<ul> <li>Full-Stack, GPU-based Acceleration of Deep Learning Tutorial CVPR 2025</li> </ul>	2025				
<ul> <li>Efficient Deep Learning for Foundation Models Workshop ECCV 2024</li> </ul>	2024				
<ul> <li>Efficient Computer Vision Workshop</li> <li>CVPR 2024</li> </ul>	2024				
<ul> <li>Full-Stack, GPU-based Acceleration of Deep Learning Tutorial CVPR 2024</li> </ul>	2024				
<ul> <li>Data-efficient Learning for Large Model Tutorial ICCV 2023</li> </ul>	2023				
<ul> <li>Full-Stack, GPU-based Acceleration of Deep Learning Tutorial CVPR 2023</li> </ul>	2023				
<ul> <li>Transformers for Vision Workshop</li> <li>CVPR 2022</li> </ul>	2022				
Invited Keynote & Talk (till Dec. 2022)					
<ul> <li>Efficient Deep Learning</li> <li>Invited Panelist, Open Compute Project (OCP) Global Summit</li> </ul>	Oct. 2022				
<ul> <li>Towards Efficient and Secure Deep Learning</li> <li>Invited Keynote, Design &amp; Automation Conference (DAC'60)</li> </ul>	Jul. 2022				
<ul> <li>Towards Efficient and Secure Deep Nets</li> <li>University of British Columbia ECE Department</li> </ul>	<i>May</i> 2022				
<ul> <li>Inverting Deep Nets</li> <li>Princeton University, Department of Computer Science research groups</li> </ul>	Aug. 2021				
<ul> <li>See through Gradients</li> <li>Europe ML meeting</li> </ul>	Apr. 2021				
<ul> <li>Dreaming to Distill</li> <li>Synced AI (largest AI media in Asia)</li> </ul>	Jul. 2020				
<ul> <li>Dreaming to Distill         Facebook AR/VR     </li> </ul>	Jun. 2020				
<ul> <li>Making Neural Networks Efficient</li> <li>Alibaba Cloud / Platform AI group</li> </ul>	Feb. 2020				
<ul> <li>Efficient Neural Networks</li> <li>NVIDIA Research, Facebook Research</li> </ul>	Dec. 2019				
<ul> <li>Efficient Neural Networks</li> <li>Baidu Research, ByteDance A.I. Lab US</li> </ul>	Dec. 2019				
<ul> <li>Efficient Neural Networks</li> <li>Alibaba A.I. Research, Kwai Lab</li> </ul>	<i>Nov.</i> 2019				

(	Applied Machine Learning: From Theory to Practice Invited Keynote, IEEE Circuits and Systems Society (Singapore Chapter)	Feb.	2018
(	A Health Decision Support System for Disease Diagnosis New Jersey Tech Council	Jun.	2016
F	Patents (till Jun. 2022)		
25.	Pruning Neural Networks NVIDIA		2022
24.	Neural Network Training Technique NVIDIA		2022
23.	Techniques to Identify Data used to Train One or More Neural Networks NVIDIA		2022
22.	Pruning Vision Transformers under Latency Budget and a Method to Distribute Parameters across Layers NVIDIA		2022
21.	GradViT: Gradient Inversion of Vision Transformers NVIDIA		2022
20.	Adaptive Token Depth Adjustment Algorithm for Networks with Transformer Blocks NVIDIA		2022
19.	Global Context Model for Transformer Neural Networks NVIDIA		2022
18.	Towards Understanding the Risks of Gradient Inversion in Federated Learning NVIDIA		2022
17.	When to Prune? A Policy for Early Structural Pruning NVIDIA		2021
16.	See Through Gradients: Image Batch Recovery via GradInversion NVIDIA		2021
15.	Network similarity metric as a Pruning Indicator NVIDIA		2021
14.	Zero-shot Model Inversion for Data-free Distillation NVIDIA		2021
13.	MHDeep: Mental Health Disorder Detection System based on Body-Area and Deep Neural Networks Princeton University		2019
12.	Optimal MSE Quantization with Fixed Codebook and Rescaling NVIDIA		2020
11.	Dreaming Data for Continual Learning NVIDIA		2020
10.	Data-Free Knowledge Distillation for Object Detection NVIDIA		2020
9.	Hardware-aware Latency Neural Network Pruning NVIDIA		2020
8.	Image Generation for Data Free Pruning NVIDIA		2019
7.	Hardware-guided Symbiotic Training for Compact, Accurate, yet Execution-efficient LSTMs Alibaba		2019
6.	Incremental Learning using a Grow-and-prune Paradigm with Efficient Neural Networks Princeton University		2019
5.	DiabDeep: Pervasive Diabetes Diagnosis based on Wearable Medical Sensors and Efficient Neural Networks Princeton University		2019
4.	Smart, Secure, yet Energy-efficient Internet-of-Things Sensors Princeton University		2019

3. NeST: A Neural Network Synthesis Tool based on a Grow-and-prune Paradigm Princeton University

2018

2. Grow and Prune Compact, Fast, yet Accurate LSTMs

Princeton University 2018

A Hierarchical Health Decision support System based on Wearable Medical Sensors and Machine Learning Ensembles
 Princeton University
 2017

## **Academic Services**

#### Teaching Assistant - Princeton University

ELE 364, Machine Learning for Predictive Data Analytics

Fall, 17-18

Spring, 16-17

# ELE464, Embedded Computing Conference Reviewer & Committee

Computer Vision and Pattern Recognition (CVPR)

Conference on Neural Information Processing Systems (NeurIPS)

International Conference on Learning Representations (ICLR)

International Conference on Machine Learning (ICML)

International Conference on Computer Vision (ICCV)

European Conference on Computer Vision (ECCV)

British Machine Vision Conference (BMVC)

Winter Conference on Applications of Computer Vision (WACV)

AAAI Conference on Artificial Intelligence (AAAI)

Design Automation Conference (DAC)

High-Performance Computer Architecture (HPCA)

#### Journal Reviewer & Committee

IEEE Transactions on Pattern Analysis and Machine Intelligence

IEEE Transactions on Neural Networks and Learning Systems

International Journal of Computer Vision

IEEE Journal of Biomedical and Health Informatics

IEEE Journal of Selected Topics in Signal Processing

IEEE Sensors Journal

IEEE Consumer Electronics Magazine

International Journal on Artificial Intelligence Tools

International Journal of Systems Architecture

International Journal of Healthcare Technology and Management

International Journal of Electronic Imaging

# Mentorship

Xin Dong

#### **NVIDIA Research Mentees**

Ji Lin Massachusetts Institute of Technology
Baifeng Shi University of California, Berkeley
Hanrong Ye Hong Kong University of Science and Technology
Huanrui Yang Duke University
Zhen Dong University of California, Berkeley

#### **Princeton Senior Thesis Mentees**

Joe Zhang, now Ph.D. at Stanford	2019-2020
Hari Santhanam, now Ph.D. at University of Pennsylvania	2019-2020
Frederick Hertan, now at SIG Trading	2018-2019
Kyle Johnson, now at Princeton University	2018-2019
Bilal Mukadam, now at Microsoft	2018-2019
Chloe Song, now at Astra Inc.	2017-2018

Harvard University