

# Xiaohan Chen

## Contact

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GitHub: <https://github.com/xhchrn>

## Education Background

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### University of Texas at Austin

Ph.D. (4th year) in Electrical and Computer Engineering

[Visual Informatics Group](#)

Supervisor: Prof. Zhangyang (Atlas) Wang

Austin, TX, U.S.

Aug, 2020 — Present

### Texas A&M University

Ph.D. in Computer Science

Supervisor: Prof. Zhangyang (Atlas) Wang

College Station, TX, U.S.

Aug, 2017 — Aug, 2020

### University of Science and Technology of China

B.S. in Mathematics and Applied Mathematics

B.E. in Computer Science (Double Degree)

Hefei, Anhui, China

Sep, 2013 — Jun, 2017

## Professional Experience

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### Research Intern

Microsoft Cloud & AI, Bellevue, WA, U.S.

Supervisor: [Dr. Yu Cheng](#) and [Dr. Zhe Gan](#)

May, 2021 — Aug, 2021

Oct, 2020 — Dec, 2020

Jun, 2020 — Aug, 2020

### Research Intern

Max Planck Institute for Intelligent Systems, Tübingen, Germany

Supervisor: [Dr. Krikamol Muandet](#) and [Dr. Siyu Tang](#)

Jun, 2019 — Nov, 2019

## Research Interests

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- *Sparse Optimization and Inverse Problems*
- *Learning to Optimize, and Meta Learning*
- *Efficient Deep Learning, and Sparse Neural Networks (Lottery Ticket Hypothesis)*

## Conference and Journal Publications

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\* The authors equally contributed to the paper.

1. T. Meng\*, **X. Chen\***, Y. Jiang, Z. Wang, “A Design Space Study for LISTA and Beyond”, *International Conference on Learning Representations (ICLR)*, 2021.
2. J. Shen\*, **X. Chen\***, H. Heaton\*, T. Chen, J. Liu, W. Yin, Z. Wang, “Learning A Minimax Optimizer: A Pilot Study”, *International Conference on Learning Representations (ICLR)*, 2021.
3. **X. Chen**, Z. Wang, S. Tang, K. Muandet, “MATE: Plugging in Model Awareness to Task Embedding for Meta Learning”, *In Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2020.
4. H. You, **X. Chen**, Y. Zhang, C. Li, S. Li, Z. Liu, Z. Wang, Y. Lin, “ShiftAddNet: A Hardware-Inspired Deep Network”, *In Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2020.

5. H. Heaton, **X. Chen**, Z. Wang, W. Yin, “Safeguarded Learned Convex Optimization”, under review in *Journal of Machine Learning Research (JMLR)*.
6. Z. Huo, A. Pakbin, **X. Chen**, N. Hurley, Y. Yuan, X. Qian, Z. Wang, S. Huang, B. Mortazavi, “Uncertainty Quantification for Deep Context-Aware Mobile Activity Recognition and Unknown Context Discovery”, *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2020.
7. **X. Chen\***, Y. Zhao\*, Y. Wang, C. Li, Y. Xie, Z. Wang, Y. Lin, “SmartExchange: Trading Higher-cost Memory Storage/Access for Lower-cost Computation”, *IEEE/ACM International Symposium on Computer Architecture (ISCA)*, 2020.
8. H. You, C. Li, P. Xu, Y. Fu, **X. Chen**, Y. Lin, Z. Wang, R. Baraniuk, “Drawing Early-Bird Tickets: Toward More Efficient Training of Deep Networks”, *International Conference on Learning Representations (ICLR)*, 2020.
9. **X. Chen\***, Z. Jiang\*, Y. Wang\*, P. Xu, Y. Zhao, Y. Lin, Z. Wang, “E2-Train: Energy-Efficient Deep Network Training with Data-, Model-, and Algorithm-Level Saving”, *In Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2019.
10. E. Ryu, J. Liu, S. Wang, **X. Chen**, Z. Wang, W. Yin, “Plug-and-Play Methods Provably Converge with Properly Trained Denoisers”, *International Conference on Machine Learning (ICML)*, 2019.
11. **X. Chen\***, J. Liu\*, Z. Wang, W. Yin, “ALISTA: Analytic Weights Are As Good As Learned Weights in LISTA”, *International Conference on Learning Representations (ICLR)*, 2019.
12. **X. Chen\***, J. Liu\*, Z. Wang, W. Yin, “Theoretical Linear Convergence of Unfolded ISTA and Its Practical Weights and Thresholds”, *In Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2018.
13. N. Bansal, **X. Chen**, Z. Wang, “Can We Gain More from Orthogonality Regularizations in Training Deep Networks?”, *In Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2018.

## Pre-prints and Non-archival Venues

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\* The authors equally contributed to the paper.

1. **X. Chen**, Y. Cheng, S. Wang, Z. Gan, Z. Wang, J. Liu, “EarlyBERT: Efficient BERT Training via Early-bird Lottery Tickets”, *arXiv pre-print*.
2. **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”, *arXiv pre-print*.

## Honors and Awards

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### Scholarships

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|---|-----------|
| – Qualcomm Innovation Fellowship 2021 Selected Abstract | Dec, 2020 |
| – ICLR Travel Award                                     | Mar, 2019 |
| – NeurIPS Travel Award                                  | Oct, 2018 |
| – AAAI Student Scholarship                              | Dec, 2017 |
| – Outstanding New Student Award, <b>Top Class Award</b> | Sep, 2013 |

### Others

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|--|-----------|
| – COMAP’s Mathematical Contest in Modeling (MCM), <b>Honorable Mention</b> | Apr, 2016 |
| – RoboGame of USTC, <b>the 2<sup>nd</sup> place</b>                        | Nov, 2015 |
| – Outstanding Young Volunteer, USTC  | Jul, 2014 |

## Service and Teaching

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- *Reviewer*: NeurIPS (2019/2020), ICML (2020), ICLR (2020), CVPR (2020), ECCV (2020), ICCV (2019), AAAI (2020,2021), ACCV (2020), WACV (2019/2020/2021)
- *Teaching Assistant*: CSCE 633, Machine Learning, Texas A&M University (2018/2019)
- *Student Volunteer*: AAAI 2018

## Technical Skills

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<b>Deep Learning Frameworks</b>	PyTorch, TensorFlow, MXNet
<b>Computer Languages</b>	C, C++, Python, MATLAB
<b>Tools</b>	Git, Vim, Visual Studio, Mathematica
<b>L<sup>A</sup>T<sub>E</sub>X</b>	