Chaojian Li

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Education

Rice University — Houston, TX, USA
Ph.D. in Electrical and Computer Engineering, Advisor: Dr. Yingyan Lin — 2019–Current

Tsinghua University — Beijing, China
B.S. in Engineering of Measurement, Control Technology and Instruments, Ranking: 7/45 — 2015–2019

Research Interest

- Efficient Deep Neural Networks (DNNs) Training [1]–[6]
- DNNs Accelerators [7]–[9]
- Neural Architecture Search (NAS) [10]

Publications

[1] **C. Li**, T. Chen, H. You, Z. Wang, and Y. Lin, "HALO: Hardware-Aware Learning to Optimize", in *European Conference on Computer Vision (ECCV)*, 2020, [Paper].

[2] H. You, **C. Li**, P. Xu, Y. Fu, Y. Wang, X. Chen, Y. Lin, Z. Wang, and R. G. Baraniuk, "Drawing Early-Bird Tickets: Toward More Efficient Training of Deep Networks", in *International Conference on Learning Representations (ICLR)*, 2020, [Paper], [Code].

[3] H. You, X. Chen, Y. Zhang, **C. Li**, S. Li, Z. Liu, Z. Wang, and Y. Lin, "ShiftAddNet: A Hardware-Inspired Deep Network", in *Advances in Neural Information Processing Systems (NeurIPS)*, 2020.

[4] Y. Fu, H. You, Y. Zhao, Y. Wang, **C. Li**, K. Gopalakrishnan, Z. Wang, and Y. Lin, "FracTrain: Fractionally Squeezing Bit Savings Both Temporally and Spatially for Efficient DNN Training", in *Advances in Neural Information Processing Systems (NeurIPS)*, 2020.

[5] **C. Li**, W. Chen, T. Chen, Y. Gu, Z. Wang, and Y. Lin, "A Data-Model Co-design Approach for Efficient Training and Inference", in *Under Review Status*, 2020.

[6] **C. Li**, H. Guo, H. You, and Y. Lin, "Training Low-bits Neural Networks with Better Accuracy-Training Cost Trade-offs", in *Under Review Status*, 2020.

[7] Y. Zhao, **C. Li**, P. X. Yue Wang, Y. Zhang, and Y. Lin, "DNN-Chip Predictor: An Analytical Performance Predictor for DNN Accelerators with Various Dataflows and Hardware Architectures", in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2020, [Paper].

[8] H. Wang, Y. Zhao, **C. Li**, Y. Wang, and Y. Lin, "A New MRAM-based Process In-Memory Accelerator for Efficient Neural Network Training with Floating Point Precision", in *IEEE International Symposium on Circuits and Systems (ISCAS)*, 2020, [Paper].

[9] Y. Zhao, X. Chen, Y. Wang, **C. Li**, H. You, Y. Fu, Y. Xie, Z. Wang, and Y. Lin, "SmartExchange: Trading Higher-cost Memory Storage/Access for Lower-cost Computation", in *International Symposium on Computer Architecture (ISCA)*, 2020, [Paper].

[10] **C. Li**, Z. Yu, Y. Fu, Y. Zhang, Y. Zhao, H. You, Q. Yu, Y. Wang, C. Hao, and Y. Lin, "A New Benchmark for Neural Architecture Search", in *Under Review Status*, 2020.

Invited Talks

- Ken Kennedy Institute at Rice University — October 2020
  Hardware-Aware Learning to Optimize [1]
- Rush Lab at Rice University — August 2020
  A Brief Introduction to Efficient Machine Learning [1], [2], [9]

Teaching

- **Teaching Assistant** at Rice University — Fall 2020
  Embedded Machine Learning (ELEC 515)
- **Teaching Assistant** at Rice University — Fall 2020
  Fundamentals of Computer Engineering (ELEC 220)

Scholarships and Awards

- Comprehensive Excellence Scholarship Sponsored by XCMG Corp. — Tsinghua University, 2018
- The "Star of Department of Precision Instrument" (6/ 250 students) — Tsinghua University, 2018
- Member of "Spark 11th" Scientific Innovation Program (50/3000 students) — Tsinghua University, 2017
- Comprehensive Excellence Scholarship Sponsored by Hannon Corp. — Tsinghua University, 2017
- The Mathematical Contest in Modeling (Honorable Mention, top 25%, as leader) — COMAP in USA, 2017
- Comprehensive Excellence Scholarship Sponsored by Takada Corp. — Tsinghua University, 2016
- The Optoelectronic Design Contest (First Place in 12 groups, as leader) — Tsinghua University, 2016

Extracurricular Activities

- **Club Leader** at Skyworks Club, Tsinghua University — 2018–2019
  Highlight: Received $10,000 sponsorship from Boeing Co. yearly
- **Club Leader** at DPI Student Science and Technology Club, Tsinghua University — 2017–2019
  Highlight 1: Established and managed a student laboratory for all the students in the department
  Highlight 2: Collaborated with two faculty instructors to manage a $100,000 funding for the club