

Rui LIN

+852-57492271 • ruilin0212@gmail.com • [ruilin0212.github.io](https://github.com/ruilin0212)

EDUCATION

The University of Hong Kong

Sept. 2018 - Sept. 2022

Ph.D. in the Dept. of Electrical and Electronic Engineering.
Supervised by Prof. Ngai Wong and Prof. Graziano Chesi.

Wuhan University

Sept. 2014 - Jun. 2018

B.S. in the School of Mathematics and Statistics.
GPA: 3.52/4.00.

PUBLICATIONS

JOURNAL

- Xiao, X., Wang, J., **Lin, R.**, Hill, D. J., & Kang, C. (2020). Large-scale aggregation of prosumers toward strategic bidding in joint energy and regulation markets. *Applied Energy*, 271, 115159. [\[PDF\]](#)
- Tao, C.*, **Lin, R.***, Chen, Q., Zhang, Z., Luo, P., & Wong, N. (2021). FAT: Learning Low-Bitwidth Parametric Representation via Frequency-Aware Transformation. *IEEE Transactions on Neural Networks and Learning Systems* (to be appeared). arXiv preprint arXiv: 2102.07444. [\[PDF\]](#) [\[Codes\]](#)
- Mao, R., Wen, B., Arman, K., Zhao Y., Ann Franchesca, L., **Lin, R.**, Wong, N., Michael, N., Hu, X., Sheng, X., Catherine, G., John Paul, S. & Li, C. (2022). Experimentally Realized Memristive Memory Augmented Neural Network. *Nature Communications*. [\[PDF\]](#)

CONFERENCE

- Ran, J., **Lin, R.**, Li, C., Zhou, J., Wong, N. (2023). PECAN: A Product-Quantized Content Addressable Memory Network. *Design, Automation and Test in Europe Conference (DATE'23)* [\[PDF\]](#)
- **Lin, R.***, Ran, J.*, Chiu, K.H., Chesi, G., Wong, N.* (2021). Deformable Butterfly: A Highly Structured and Sparse Linear Transform. *Proceedings of the Advances in Neural Information Processing Systems (NeurIPS'21)* [\[PDF\]](#)[\[Codes\]](#)[\[Slides\]](#)[\[Poster\]](#)
- **Lin, R.***, Ran, J.*, Wang, D., Chiu, K. H., & Wong, N. (2021). EZCrop: Energy-Zoned Channels for Robust Output Pruning. In proceeding of the Winter Conference on Applications of Computer Vision (WACV'22).[\[PDF\]](#)[\[Codes\]](#)[\[Slides\]](#)[\[Poster\]](#)
- Cheng, Y., **Lin, R.**, Zhen, P., Hou, T., ... & Wong, N. (2021). FASSST: Fast Attention Based Single-Stage Segmentation Net for Real-Time Instance Segmentation. In proceeding of the Winter Conference on Applications of Computer Vision (WACV'22).[\[PDF\]](#)[\[Slides\]](#)[\[Poster\]](#)
- **Lin, R.**, Cong, C., & Wong, N. (2022). Coarse to Fine: Image Restoration Boosted by Multi-Scale Low-Rank Tensor Completion. In 2022 26th International Conference on Pattern Recognition (ICPR'22), IEEE. [\[PDF\]](#)[\[Codes\]](#)
- Yuan, R.*, **Lin, R.***, Ran, J., Liu, C., Tao, C., Wang, Z., Li, C. & Wong, N*. (2021). BATMANN: A Binarized-All-Through Memory-Augmented Neural Network for Efficient In-Memory Computing. In proceeding of IEEE 14th International Conference on ASIC (ASICON'21). [\[PDF\]](#)[\[Codes\]](#)[\[Slides\]](#)
- Ran, J.*, **Lin, R.***, So, H. K., Chesi, G., & Wong, N. (2021). Exploiting Elasticity in Tensor Ranks for Compressing Neural Networks. In 2020 25th International Conference on Pattern Recognition (ICPR'20) (pp. 9866-9873). IEEE. [\[PDF\]](#)[\[Codes\]](#)[\[Slides\]](#)
- **Lin, R.**, Ko, C. Y., He, Z., Chen, C., Cheng, Y., Yu, H., ... & Wong, N. (2020). HOTCAKE: Higher Order Tucker Articulated Kernels for Deeper CNN Compression. In 2020 IEEE 15th Inter-

national Conference on Solid-State & Integrated Circuit Technology (ICSICT'20) (pp. 1-4). IEEE. [\[PDF\]](#)[\[Codes\]](#)[\[Slides\]](#)

- o Ko, C. Y., **Lin, R.**, Li, S., & Wong, N. (2019). MiSC: mixed strategies crowdsourcing. Proceedings of the Twenty-Eighth International Joint Conference on Artificial Intelligence Main track (IJCAI'19) (pp. 1394-1400). [\[PDF\]](#)[\[Codes\]](#)[\[Slides\]](#)

* Equal Authorship Statement

PROFESSIONAL ACTIVITIES

TALKS

IJCAI 2019 Workshop “Humanizing AI” Aug. 2019

An invited lightning talk about crowdsourcing

AI Chip Center for Emerging Smart Systems (ACCESS) Seminar Feb. 2022

An invited talk about a newly proposed linear transform

Tsinghua University “AI TIME” Mar. 2022

An invited talk about a newly proposed linear transform

TEACHING

The University of Hong Kong Fall 2019, Fall 2020, Fall 2021

MATH1853: Linear Algebra, Probability and Statistics

Course Tutor

Selected Materials: [Slides-1](#), [Slides-2](#), [Slides-3](#)

Wuhan University Spring 2018

Advanced Algebra and Analytic Geometry

Course Tutor

DUTIES

Part Time Research Assistant 2022.6 - 2022.8

The University of Hong Kong

Help with additional projects including my regular research tasks

Conference Reviewer 2021

NeurIPS'22, ICML'22, CVPR'22, ICPR'22, CVPR'21, ICCV'21

Contest Problem Designer & Judge 2021

[EDAthon'21](#)

Problem 2

EDAthon is a whole-day programming contest in Electronic Design Automation (EDA)

RESEARCH INTERESTS

- o Neural network compression.
- o Tensor applications for computation & memory cost reduction.
- o Transformer in computer vision field.
- o Model robustness analysis.

AWARDS AND SCHOLARSHIPS

Postgraduate Scholarship (PGS) 2018 - 2022

The University of Hong Kong

French Learning Scholarship in the School of Mathematics and Statistics 2015, 2016, 2017

Wuhan University

Winter Exchange Program Scholarship to University of Cambridge 2016

ADDITIONAL

- **Programming Languages:** Python, MATLAB, R.
- **Languages:** Mandarin (native), English (fluent), Cantonese (conversational), French (basic).