

林 睿

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教育经历

香港大学

2018.9 - 2022.9

于 电子电气工程学院 攻读 博士学位

导师: [Prof. Ngai Wong](#) 与 [Prof. Graziano Chesi](#).

武汉大学

2014.9 - 2018.6

于 数学与统计学院 获得 理学学士学位

绩点: 3.52/4.00.

出版物

期刊

- 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*. [\[PDF\]](#)

会议

- Huang, B., Tao, C., **Lin, R.**, Wong, N. (2023). Frequency Regularization for Improving Adversarial Robustness. In proceedings of the 2nd International Workshop on Practical Deep Learning in the Wild at the AAAI Conference on Artificial Intelligence (Workshop at AAAI'23) [\[PDF\]](#)
- 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.**, 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. [\[PDF\]](#)[\[Codes\]](#)
- **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).[\[PDF\]](#)[\[Slides\]](#)[\[Poster\]](#)
- 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 International Conference on Solid-State & Integrated Circuit Technology (ICSICT'20) (pp. 1-4). IEEE. [\[PDF\]](#)[\[Codes\]](#)[\[Slides\]](#)
- 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

学术活动

讲座

- | | |
|---|---------------|
| IJCAI 2019 研讨会 “Humanizing AI” | 2019.8 |
| 一个关于众包的特邀讲座 | |
| AI Chip Center for Emerging Smart Systems (ACCESS) 研讨会 | 2022.2 |
| 一个关于新提出的线性变换的特邀演讲 | |
| 清华大学 “AI TIME” | 2022.5 |
| 一个关于新提出的线性变换的特邀演讲 | |

教学

- | | |
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| 香港大学 | 2019 秋季学期, 2020 秋季学期, 2021 秋季学期 |
| MATH1853: Linear Algebra, Probability and Statistics | 课程助教 |
| 部分材料: Slides-1 , Slides-2 , Slides-3 | |
| 武汉大学 | 2018 春季学期 |
| 线性代数与解析几何 | 课程助教 |

担任职务

- | | |
|---------------|------------------------|
| 兼职研究助理 | 2022.6 - 2022.8 |
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香港大学

完成常规研究任务以外的项目

会议审稿人

2021 - 至今

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

竞赛题目设计与裁判

2021

[EDAthon'21](#)

Problem 2

EDAthon 是电子设计自动化 (Electronic Design Automation (EDA)) 领域的一项全天编程竞赛

研究兴趣

- 神经网络压缩 (Neural network compression)
- 计算和内存成本降低的张量应用 (Tensor applications for computation & memory cost reduction)
- 计算机视觉领域的 Transformer (Transformer in computer vision field)
- 模型的鲁棒性分析 (Model robustness analysis)

奖项与奖学金

研究生奖学金 (Postgraduate Scholarship (PGS))

2018 - 至今

香港大学

数学与统计学院中法班奖学金

2015, 2016, 2017

武汉大学

英国剑桥大学冬季交换项目奖学金

2016

武汉大学

新生三等奖学金

2014

武汉大学

其他

- 编程语言: Python, MATLAB, R.
- 语言能力: 普通话 (母语), 英语 (流利), 粤语 (日常交流), 法语 (基础).