林 睿

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工作经历

华为香港研究所 **2022.12 - 至今**

于 *AI 框架与数据结构实验室* 担任 *研究员*

Explainable and trustworthy AI, data processing technologies and framework design

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][Codes]
- 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

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**

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).