

Dr. YuAng Chen

Postdoctoral Scholar · High-Performance Computing · C++ · CUDA

✉ yuangchen@cuhk.edu.hk | 🏠 <https://yuang-chen.github.io> | 🔗 <https://www.linkedin.com/in/yuang-chen/>

Education

- The Chinese University of Hong Kong, Shenzhen** *Shenzhen, China*
Doctor of Philosophy in Computer and Information Engineering *2020.01 - 2022.06*
• Parallel Computing, Graph Algorithms, Graph Neural Networks
- Eindhoven University of Technology & Technical University of Berlin** *Netherlands & Germany*
Master of Science in Multicore Systems *2015.08 - 2018.10*
• Dual Degrees with Full European Union Scholarship
- Huazhong University of Science and Technology** *Wuhan, China*
Bachelor of Engineering in Electronic Science and Technology *2011.08 - 2016.06*
• Exchange Student at RWTH Aachen, Germany with CSC Scholarship

Work Experience

- The Chinese University of Hong Kong** *Hong Kong, China*
Postdoctoral Scholar *2023.02 - Present*
• Deploy sparse computations (SpMM, SDDMM, SpGEMM) on Tensor Cores of GPUs
• Vectorize lightweight sparse computation (SpMV) with SIMD on Intel & ARM CPUs
- International Digital Economy Academy** *Shenzhen, China*
Intern *2022.10 - 2022.12*
• Optimize parallel graph algorithms (PageRank, Connected Components and etc.) for fraud detections
- Oneflow** *Remote*
Intern *2022.07 - 2023.09*
• Develop GNN models from python architecture to CUDA kernels within Oneflow framework
• Implement sampling policy for mini-batch GNN training

Publications

PUBLISHED

- YuAng Chen and Yeh-Ching Chung, "Workload Balancing via Graph Reordering on Multicore Systems," IEEE Transactions on Parallel and Distributed Systems (TPDS), Vol. 33, No. 5, 2022, pp. 1231-1245.
- YuAng Chen and Yeh-Ching Chung, "HiPa: Hierarchical Partitioning for Fast Page Rank on Multicore Systems," Proceedings of IEEE International conference on Parallel Processing (ICPP), Article No. 24, 2021, pp. 1-10.
- YuAng Chen and Yeh-Ching Chung, "Corder: Cache-Aware Reordering For Optimizing Graph Analytics," Proceedings of ACM International conference on Principles and Practice of Parallel Programming (PPoPP), 2021, pp.472-473.
- YuAng Chen and Yeh-Ching Chung, "An Unequal Caching Strategy for Shared-Memory Graph Analytics," IEEE Transaction on Parallel and Distributed Systems (TPDS), Vol. 34, No. 3, 2023, pp. 955-967.
- YuAng Chen and Yeh-Ching Chung, "Connectivity-Aware Link Analysis for Skewed Graphs," Proceedings of International Conference on Parallel Processing (ICPP), pp. 482-491. 2023.

IN REVIEW & PREP

- YuAng Chen and Yeh-Ching Chung, "Rebo: Reordering and Blocking for Graph-Oriented SpMV", JPDC
- YuAng Chen and Jeffery Xu Yu, "Accelerating SpMV for Scale-Free Graphs with Optimized Bins", ICDE'24
- YuAng Chen and Jeffery Xu Yu, "Vectorized Sparse Blocks of Graph Matrices", DASFAA'24
- YuAng Chen and Jeffery Xu Yu, "Triangle Counting on Tensor Cores", ATC'24