CONTACT

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SKILLS

- Parallel Computing 6Y
- CUDA 3Y
- swgcc 3Y
- MPI 3Y
- High-Performance Cryptography 3Y

EDUCATION

PhD - CS, Xi'an Jiaotong University, China, **High-Performance Cryptography** **2021 - 2025**

PhD (CSC) - CS, National University of Singapore, Singapore, **LLM Serving Scheduling** **2023 - 2024**

MESc - CS, Xi'an Jiaotong University, China, **MPI Communication modeling & CFD** **2018 - 2021**

BEng - IoT, Hefei University of Technology, China **2014 - 2018**

JOURNAL ARTICLES

Ziheng Wang, Xiaoshe Dong, Yan Kang, Heng Chen, Qiang Wang. CUSPX: Efficient GPU Implementations of Post-Quantum Signature SPHINCS$^+$, IEEE Transactions on Computers (TC), 2024, Just Accepted — CCF A

Ziheng Wang, Xiaoshe Dong, Heng Chen, Yan Kang. An Example of Parallel Merkle Tree Traversal: Post-Quantum Leighton-Micali Signature on the GPU, ACM Transactions on Architecture and Code Optimization (TACO), 2024, Just Accepted — CCF A

Yan Kang, Xiaoshe Dong, **Ziheng Wang**, Heng Chen, Qiang Wang, Parallel implementations of post-quantum leighton-Micali signature on multiple nodes, The Journal of Supercomputing (TJSC), 80(4):5042–5072 — **CCF C**

Ziheng Wang, Xiaoshe Dong, Heng Chen, Yan Kang. Efficient GPU implementations of post-quantum signature XMSS, IEEE Transaction on Parallel and Distributed Systems (TPDS), 2023, 34(3): 938-954 — CCF A

Heng Chen, **Ziheng Wang**, Xi Xiao, Jingbo Li, Xiaoshe Dong, Xingjun Zhang, SunwayURANS: 3D full annulus URANS simulations of transonic axial compressors on Sunway TaihuLight, The Journal of Supercomputing (TJSC), 2022, 78(17): 19167–19187 — **CCF C**

Ziheng Wang, Xiaoshe Dong, Yan Kang, Heng Chen. Parallel SHA 256 on SW26010 many-core processor for hashing of multiple messages, The Journal of Supercomputing (TJSC), 2022, 79(2): 2332–2355 — CCF C

Ziheng Wang, Heng Chen, Weilin Cai, Xiaoshe Dong, Xingjun Zhang. C-Lop: Accurate contention-based modeling of MPI concurrent communication, Parallel Computing (PC), 2022, 111: 102925 — CCF B

Ziheng Wang, Heng Chen, Xiaoshe Dong, Weilin Cai, Yan Kang, Xingjun Zhang, Extending τ-Lop to model MPI blocking primitives on shared memory, The Journal of Supercomputing (TJSC), 2022, 78(9): 12046–12069 — **CCF C**

Ziheng Wang, Heng Chen, Xiaoshe Dong, Weilin Cai, Xingjun Zhang. LogSC: Model-based one-sided communication performance estimation, Future Generation Computer Systems (FGCS), 132: 25-39, 2022 — Q1

Weilin Cai, Heng Chen, **Ziheng Wang**, Xingjun Zhang, Implementation and optimization of ChaCha20 stream cipher on Sunway TaihuLight supercomputer, The Journal of Supercomputing (TJSC), 2022, 78(3): 4199–4216 — **CCF C**

Ziheng Wang, Heng Chen, Weiguo Wu, Client-aware negotiation for secure and efficient data transmission, Energies, 2020, 21(13): 5777 — **SCI**

CONFERENCE PAPERS

Weilin Cai, Heng Chen, Zhimin Zhuo, **Ziheng Wang**, Ninggang An, Flexible supervision system: a fast fault-tolerance strategy for cloud applications in cloud-edge collaborative environments, NPC, pp 108-113, 2022 — **CCF C**

Ziheng Wang, Heng Chen, Weilin Cai, A hybrid CPU/GPU scheme for optimizing ChaCha20 stream cipher, ISPA, pp 1171-1178, 2021 — **CCF C**

PROJECT EXPERIENCES

Development of parallel computing software for large fluid machinery for E - class computer (National Key Research and Development Program of China, No. 2016YFB0200902). Tool and knowledge: C/C++, CFD. parallel computing, I was tasked with overhead analysis and modeling of the application's MPI communication, as well as optimizing the communication. — **2018-2022**

A Confidential horizontal project. Tool: Web Server (Apache), C/C++. I am responsible for building a network security server, and in order to achieve some requirements to modify the two-way authentication code of Apache. — **2018-2020**

Huawei joint innovation project - I/O performance automatic tuning of WRF / LAMMPS. Tool: Python, C/C++, Slurm. I was responsible for the automatic performance tuning of WRF and coordinating the entire team. — **2021-2023**

COMPETITIONS

The 5th China Parallel Application Challenge on domestic CPU (CPC2021): **National Champion**, Preliminary and final: Transformer optimization, 2021 — **2021**

The 9th "Intel Cup"Parallel Application Challenge (PAC2021): National **bronze prize (6th place)**, Preliminary: Weighted Back-Projection; final: Barcode map, 2021 **2021**

The 18th National Post-graduate Mathematical Contest in Modeling (2021): **National Third Prize**, Ultra-wide band precise positioning problem under signal interference, 2021 **2021**

The 9th China Parallel Application Challenge on domestic CPU (CPC2020): Parallel Fund prize (10th place), Preliminary: Breadth-first search; final: general purpose Computation on unstructured grids, 2020 **2020**

The 17th National Post-graduate Mathematical Contest in Modeling: National Second Prize, Research on optimal fuel supply strategy of aircraft centre of mass balance, 2020 **2020**

The 3rd China Parallel Application Challenge on domestic CPU (CPC2019): **National bronze prize (7th place)**, Research on optimal fuel supply strategy of aircraft centre of mass balance, 2019 **2019**

The 16th National Post-graduate Mathematical Contest in Modeling: **National First Prize**, Rapid track planning of intelligent aircraft under multiple constraints, 2019 **2019**