

GAO Weihe

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I study Computer Science as a postgraduate student at Tsinghua University until the summer of 2024. My research interests focus on Distributed Systems, High Performance Computing (HPC), Applied Security, Secure (TEE) Storage Systems, and the system perspectives of blockchain.

Education

- **Tsinghua University** Beijing, China
MSc. of Computer Science Sep. 2021 - Jun. 2024 (expected)
– Relevant courses: Disbuted Systems, Networking, Blockchains, Security.
- **Lancaster University** United Kingdom
BSc. of Computer Science Sep. 2017 - Jun. 2021
– GPA: 3.90/4.00, ranked 3/51.
- **Beijing Jiaotong University** Beijing, China
BEng. of Computer Science Sep. 2017 - Jun. 2021

Research Topics

- **Scaling blockchains with trust *** computing delegation** Submitted to EuroSys'24
(Paper under review) Blockchains, Scalability, Consensus Sep. 2021 - Oct. 2023
– Scaling BFT blockchains with novel consensus based on threshold cryptography
– Optimizing BFT performance through parallel computing delegation; Zero-copy serde
– TEE-based indentities and privacy protection
- **Amotic Cross-chain Execution of Smart Contracts**
Async-syscall, TEE, Concurrency Control March 2023 - Present
– Atomicity of cross-chain and cross-consensus execution
– Off-chain shadows and ZKP-based scalability
- **Concurrency Control Schemes of TEEs**
Async-syscall, TEE, Concurrency Control July 2022 - Present
– Exploring more efficient memory R/W patterns in TEEs
– Multiple network stacks (IB verbs, DPDK, raw UDP, eRPC)

Internships

- **C++ Developer in Confidential Computing** Beijing Yeez Tech. Co., Ltd.
TEE, Blockchains, Cluster Dispatching May 2023 - Present
– Cluster dispatching among TEEs
– Confidential computing over blockchains

Publications

- [1] Hu, Bingyi, **Weihe Gao**, et al. "Image-based Deflection Measurement and Error Analysis." Journal of Physics: Conference Series. Vol. 1626. No. 1. IOP Publishing, 2020.
- [2] Hu, Bingyi, **Weihe Gao**, et al. "Modelling and Implementation of Distributed Rain Water Storage and Utilization." Journal of Physics: Conference Series. Vol. 1624. No. 2. IOP Publishing, 2020.

Miscellaneous

PL: C/C++ (skilled), Rust (proficient), Java/Python/JavaScript/Solidity/Go (project experience)
Language: English (fluent), Mandarin (native)