JINTONG LIU

(+86) 13316331516 ● jintliuuuuu@gmail.com ● GitHub ● Homepage ● Scholar

EDUCATION

Huazhong University of Science and Technology, Wuhan, China   09/2019 – 06/2022
M.Eng (Academic Degree) in Computer System Architecture
Academic focus: Distributed systems, blockchain, smart contract, consensus, storage systems

Huazhong University of Science and Technology, Wuhan, China   09/2015 – 06/2019
B.Eng. in Electronic Science and Technology, GPA: 3.93/4, Rank: 4/156

PUBLICATIONS

- **Jintong Liu**, Shenggang Wan, Xubin He. Alias-Chain: Improving Blockchain Scalability via Exploring Content Locality among Transactions, in: 36th IEEE International Parallel and Distributed Processing Symposium (**IPDPS '22**), Lyon, France, 30 May – 3 June 2022, IEEE. (Published)
- **Jintong Liu**, Chenglong Yi, Shenggang Wan, Juntao Fang, Bin Sun, Liqiang Zhang and Changsheng Xie. Data Deduplication Based on Content Locality of Transactions to Enhance Blockchain Scalability. Transactions on Architecture and Code Optimization (**TACO**), ACM. (Submitted)

EXPERIENCE

Memo Lab   Wuhan, China
Research Engineer   06/2022 – now

- Developed the production version of *Alias-Chain* by Golang, as an optimization module integrated in Ethereum. Achieved 60%-80% on-chain data shrinkage, while ensuring the compatibility and security.
- Designed frameworks and implemented modular services: (a) "Indexer" for monitoring blockchains' states and specified smart contracts. (b) "Decentralized Profile" to store users' profiles on-chain and off-chain using smart contracts and decentralized storage network. (c) Providing image search in decentralized storage network using a vector database and ResNet models. (d) "Decentralized Computing Services" for computing resource integration.

Blockchain Storage Research Center   Wuhan, China
Graduate Research Assistant   09/2019 – 06/2022

- Investigated blockchains' architecture, consensus, data structure, smart contract, etc.
- Proposed *Alias-Chain* to scale out blockchains, designed and conducted experiments on a 100-machine cluster to verify the effectiveness of the solution.
- Made an oral presentation of *Alias-Chain* at the conference IPDPS '22.

Memo Lab   Wuhan, China
Research Intern   06/2021 – 03/2022

- Implemented consensus "hotstuff", fixed some practical problems out of the paper version, achieved higher performance and non-rollback consensus by introducing lightweight optimizations.
- Designed and implemented interfaces of "Sparse Merkle Tree" for state transition and validation in state machines, optimized SMT's key-value structure to support safe multi-version management.

Intelligent Electronics Institute   Wuhan, China
Undergraduate Research Assistant   05/2017 – 09/2017

- Assisted in developing a computing and simulation platform.
- Designed and implemented a method for grid computing in genetic algorithm.

HONORS AND AWARDS

- Excellent Thesis Award (outstanding Masters' theses, Huazhong Univ. of Sci. and Tech.)   2022
- Bronze Award of China International College Students' Internet+ Competition (postgraduate group) 2021
- Academic Scholarship (Huazhong Univ. of Sci. and Tech.)   2021
- Outstanding Graduates (Huazhong Univ. of Sci. and Tech.)   2019

ACADEMIC SERVICE

International Journal Reviewer: Computer Communications