Chenlin Wu

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https://github.com/Michael112233

EDUCATION BACKGROUND & SKILLS

Sun Yat-sen University, China Sept 2021 – June 2025

- Bachelor of Engineering in Computer Software Engineering
- GPA: 4.0/4.0, 91.11/100
- **Skills**: Python(PyTorch, TensorFlow), C/C++, Golang, LaTeX

RESEARCH INTERESTS

Distributed System: Protocol Design, Blockchain, Security

RESEARCH EXPERIENCE

Historical Information Assisted Zeroth-order Federated Optimization Feb 2024 – Sept 2024

This project aims to develop a zeroth-order federated optimization algorithm assisted by historical trajectory to reduce high estimation error caused by standard Gaussian smoothing.

- Conducted experiments on several datasets with commonly used federated zeroth-order optimization algorithms.
- Provided part of the theoretical proofs on non-isotropic Gaussian smoothing and convergence properties.
- Finished writing the paper and polished the paper together with my advisor.

A Secure Sharding Blockchain by Decoupling Consensus and Storage May 2024 - Sept 2024

This project aims to propose a secure sharding blockchain which can support low-cost reconfiguration to ensure that each shard cannot be attacked by malicious nodes.

- Investigated the existing functionally decoupled blockchains and chose the Ethereum 2.0 as the comparison object.
- Implemented a prototype of the sharding version of Ethereum 2.0 and conducted comparison experiment to compare the performance of ours with Ethereum 2.0.

A High-Throughput Cross-chain Scheme Based on Multi-committee Jan 2024 - Apr 2024

This project aims to propose a secure cross-chain scheme through multi-committee with a high throughout.

- Investigated the existing cross-chain schemes, clarified these schemes and summarised the similarities of each categories.
- Designed four comparison experiments to compare the performance of ours with the performance of these schemes and implemented our scheme and tested the performance of our scheme.

TEACHING EXPERIENCE

Teaching Assistant at Sun Yat-sen University on "**Compilers Principles**" Feb 2024 - Jul 2024

- provided feedback on students' assignments, and gave courses to highlight common mistakes in the assignments.
- Taught students how to construct a compiler which could achieve lexical analysis, syntax analysis, semantic analysis, intermediate code, and target code generation in the course "**Compilers Construction Laboratory**".

Teaching Assistant at Sun Yat-sen University on "**Compilers Principles**" Feb 2025 - Jul 2025

- The same as above.

PUBLICATIONS

DecoupleChain: A Two-Layer Blockchain Sharding System Enabling Frequent Shard Reconfiguration May 2025

Huawei Huang, Miaoyong Xu, ***Chenlin Wu***, Lu Zhou, Zibin Zheng*

10.1109/ICWS67624.2025.00119

A Historical Trajectory Assisted Optimization Method for Zeroth-Order Federated Learning Oct 2024

Chenlin Wu, Xiaoyu He, Zike Li, Jing Gong, Zibin Zheng*,

arXiv:2409.15955

AWARDS

the 1st International Meta Computing Contest - Third Prize Jun 2024, Qingdao, China

Excellent Student Scholarship at Sun Yat-sen University 2022 / 2023 / 2024

ACADEMIC SERVICE

Reviewer of IEEE Internet of Things Journal Oct 2024