

ZHAOHUA CHEN

Center on Frontiers of Computing Studies (CFCS),
School of Computer Science,
Peking University,
Beijing, China

Email: chenzhaohua@pku.edu.cn, caezoah@gmail.com

Homepage: <https://daleczh.github.io/>

EDUCATION

Ph.D. of Science, in process

Peking University, Beijing, China

2021.09 – 2026.07 (in expectation)

Center on Frontiers of Computing Studies (CFCS), School of Computer Science

Bachelor of Science, Summa Cum Laude

Peking University, Beijing, China

2017.09 – 2021.07

Intelligence Science and Technology

School of Electronics Engineering and Computer Science

RESEARCH INTERESTS

I am much interested in the interplay of computer science and economics, also known as algorithmic game theory. More specifically, I am currently working on various problems in ad auctions. Previously, I have worked on the scalability issue of blockchain, when I mainly focused on the application of game theory and mechanism design in the field of blockchain.

PUBLICATIONS

An Efficient and Robust Committee Structure for Sharding Blockchain

Mengqian Zhang*, Jichen Li*, **Zhaohua Chen***, Hongyin Chen* and Xiaotie Deng

*Journal: **IEEE Transactions on Cloud Computing***

(Extended version of "CycLedger: A Scalable and Secure Parallel Protocol for Distributed Ledger via Sharding")

doi: [10.1109/TCC.2022.3217856](https://doi.org/10.1109/TCC.2022.3217856) (Early Access)

Arxiv: [2112.15322](https://arxiv.org/abs/2112.15322)

A Provable Softmax Reputation-based Protocol for Permissioned Blockchains

Hongyin Chen*, **Zhaohua Chen***, Yukun Cheng, Xiaotie Deng, Wenhan Huang, Jichen Li, Hongyi Ling* and Mengqian Zhang

*Journal: **IEEE Transactions on Cloud Computing***

(Extended version of "An Efficient Permissioned Blockchain Model with Provable Reputation Mechanism")

doi: [10.1109/TCC.2021.3130244](https://doi.org/10.1109/TCC.2021.3130244) (Early Access)

Decentralized Asset Custody Scheme with Security against Rational Adversary**Zhaohua Chen** and Guang YangConference: **WINE 2021**

doi: 10.1007/978-3-030-94676-0_25

Arxiv: 2008.10895

Cryptology ePrint Archive: 2020/1229

On Tightness of the Tsaknakis-Spirakis Algorithm for Approximate Nash Equilibrium**Zhaohua Chen**, Xiaotie Deng, Wenhan Huang, Hanyu Li* and Yuhao LiConference: **SAGT 2021**

doi: 10.1007/978-3-030-85947-3_7 Arxiv: 2107.01471

An Efficient Permissioned Blockchain Model with Provable Reputation MechanismHongyin Chen*, **Zhaohua Chen***, Yukun Cheng, Xiaotie Deng, Wenhan Huang, Jichen Li, Hongyi Ling* and Mengqian ZhangConference: **ICDCS 2021** (Poster)

doi: 10.1109/ICDCS51616.2021.00123 Arxiv: 2002.06852

CycLedger: A Scalable and Secure Parallel Protocol for Distributed Ledger via ShardingMengqian Zhang*, Jichen Li*, **Zhaohua Chen***, Hongyin Chen* and Xiaotie DengConference: **IPDPS 2020** (Best paper nominee)

doi: 10.1109/IPDPS47924.2020.00045

Arxiv: 2001.06778

PATENTS

CN112419060A. Asset hosting system, asset management method, node and medium

Inventor: YANG GUANG, **CHEN ZHAOHUA**, WU MING, LONG FAN, LI CHENXING**INTERNSHIPS****Research Intern at DeCus (Conflux)**

2020.09 – 2021.10

Mentor: Dr. Ge Chen, Dr. Tian Lin, Dr. Guang Yang**Topic:** Group assignment scheme design in decentralized asset custody scenario**Research Intern at Conflux**

2020.03 – 2020.09

Mentor: Dr. Guang Yang**Topic:** Mechanism design and analysis in blockchain cross-chain protocols**TEACHINGS****Advisor:**

Billiards

Yuanpei College, Peking University, 2023.03 – 2023.06

Billiards

Yuanpei College, Peking University, 2022.10 – 2022.12

Teaching Assistant:

| | |
|--|--------------------------------------|
| <i>Study and Practice on Topics of Frontier Computing (II)</i> | Peking University, 2023.02 – 2023.06 |
| <i>Study and Practice on Topics of Frontier Computing (I)</i> | Peking University, 2022.09 – 2023.01 |
| <i>Discrete Math and Structures (I)</i> | Peking University, 2021.09 – 2022.01 |
| <i>Discrete Math and Structures (I)</i> | Peking University, 2020.09 – 2021.01 |
| <i>Blockchain Theory and Technique</i> | Peking University, 2019.09 – 2020.01 |

SERVICES

Conference Reviewing: GameSec 2021, IPDPS 2020

Journal Reviewing: SIAM Journal on Computing

Volunteer Experience: CSIAM-BTAF 2021, IJTCS 2021 (Undergraduate Research Forum Chair), WINE 2020 (Volunteer Group Leader, in Local Organization Committee), IJTCS 2020

HONORS

| | |
|---|------|
| The China Optics Valley Scholarship | 2022 |
| Merit Student | 2022 |
| 3 rd Place in Captial Colledge Student Billiards Championship (Single) | 2021 |
| Excellent Graduate of Peking University | 2021 |
| 3 rd Prize of Peking University Scholarship | 2020 |
| Merit Student | 2020 |
| National Scholarship | 2019 |
| Merit Student | 2019 |
| 2 nd Place in Captial Colledge Student Billiards Championship (Team) | 2019 |
| 3 rd Prize in “Tencent Cup” Peking University Programming Contest | 2019 |
| Jingjishijie Scholarship | 2018 |
| Merit Student | 2018 |