

## ZHAOHUA CHEN

Center on Frontiers of Computing Studies (CFCS),  
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Homepage: <https://daleczh.github.io/>

### EDUCATION

*Ph.D. of Science, in process*

**Peking University**, Beijing, China

September 2021 – July 2026 (in expectation)

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

*Bachelor of Science, Summa Cum Laude*

**Peking University**, Beijing, China

September 2017 – July 2021

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 Mechanism**Hongyin 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 Sharding**Mengqian 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)**

September 2020 - Now

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

March 2020 - September 2020

**Mentor:** Dr. Guang Yang**Topic:** Mechanism design and analysis in blockchain cross-chain protocols**TEACHINGS**TA of *Discrete Math and Structures (I)*

Peking University, September 2021 – January 2022

TA of *Discrete Math and Structures (I)*

Peking University, September 2020 – January 2021

TA of *Blockchain Theory and Technique*

Peking University, September 2019 – January 2020

**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**

3 <sup>rd</sup> Place in Captial Colledge Student Billiards Championship (Single)	2021
Excellent Graduate of Peking University	2021
3 <sup>rd</sup> Prize of Peking University Scholarship	2020
Merit Student	2020
National Scholarship	2019
Merit Student	2019
2 <sup>nd</sup> Place in Captial Colledge Student Billiards Championship (Team)	2019
3 <sup>rd</sup> Prize in “Tencent Cup” Peking University Programming Contest	2019
Jingjishijie Scholarship	2018
Merit Student	2018