

## ZHAOHUA CHEN

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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

#### JOURNAL PAPERS

**On Tightness of Tsaknakis-Spirakis Descent Methods for Approximate Nash Equilibria**

**Zhaohua Chen**, Xiaotie Deng, Wenhan Huang, Hanyu Li, and Yuhao Li

*Information and Computation*

doi: [10.1016/j.ic.2023.105046](https://doi.org/10.1016/j.ic.2023.105046) (Online)

**An Efficient and Robust Committee Structure for Sharding Blockchain**

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

*IEEE Transactions on Cloud Computing*

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

**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  
**IEEE Transactions on Cloud Computing**  
doi: 10.1109/TCC.2021.3130244

## CONFERENCE PAPERS

**Coordinated Dynamic Bidding in Repeated Second-Price Auctions with Budgets**  
Yurong Chen, **Zhaohua Chen**, Xiaotie Deng, Zhijian Duan, Haoran Sun, Qian Wang, and Xiang Yan  
**ICML 2023**

**Decentralized Asset Custody Scheme with Security against Rational Adversary**  
**Zhaohua Chen** and Guang Yang  
**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 Li  
**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 Zhang  
**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 Deng  
**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:**

*Study and Practice on Topics of Frontier Computing (II)*

Peking University, 2023.02 – 2023.06

*Study and Practice on Topics of Frontier Computing (I)*

Peking University, 2022.09 – 2023.01

*Discrete Math and Structures (I)*

Peking University, 2021.09 – 2022.01

*Discrete Math and Structures (I)*

Peking University, 2020.09 – 2021.01

*Blockchain Theory and Technique*

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 <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