

ZHAOHUA CHEN

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School of Computer Science,
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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)

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 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