

ZHAOHUA CHEN

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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*, Qian Wang*, Zhijian Duan, Haoran Sun, **Zhaohua Chen**, Xiang Yan, and Xiaotie Deng
ICML 2023
Arxiv: 2306.07709

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

3rd Place in Captial Colledge Student Billiards Championship (Single) 2021

Excellent Graduate of Peking University 2021

3rd Prize of Peking University Scholarship 2020

Merit Student 2020

National Scholarship 2019

Merit Student 2019

2nd Place in Captial Colledge Student Billiards Championship (Team) 2019

3rd Prize in “Tencent Cup” Peking University Programming Contest 2019

Jingjishijie Scholarship 2018

Merit Student 2018