

## ZHAOHUA CHEN

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

Email: [chenzhaohua@pku.edu.cn](mailto:chenzhaohua@pku.edu.cn), [caezoah@gmail.com](mailto:caezoah@gmail.com)

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

### EDUCATION

*Ph.D. of Science, in process*

2021.09 – 2026.07 (in expectation)

**Peking University**, Haidian, Beijing, China

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

Advisor: Prof. Xiaotie Deng

*Bachelor of Science, Summa Cum Laude*

2017.09 – 2021.07

**Peking University**, Haidian, Beijing, China

Turing class of AI

Intelligence Science and Technology

School of Electronics Engineering and Computer Science

### RESEARCH INTERESTS

I am now working on various topics in the interplay of computer science and economics, also known as algorithmic game theory.

### PUBLICATIONS

#### CONFERENCE PAPERS

**Contextual Decision-Making with Knapsacks beyond Worst Cases**

**Zhaohua Chen**, Rui Ai, Mingwei Yang, Yuqi Pan, Chang Wang, and Xiaotie Deng

***NeurIPS 2024***

**Are Bounded Contracts Learnable and Approximately Optimal?**

( $\alpha\beta$ ) Yurong Chen, **Zhaohua Chen**, Xiaotie Deng, and Zhiyi Huang

***EC 2024***

*ArXiv: 2402.14486*

**Robust Decision Aggregation with Second-order Information**

Yuqi Pan, **Zhaohua Chen**, and Yuqing Kong

***WWW 2024***

doi: 10.1145/3589334.3645384  
ArXiv: 2311.14094

**Budget-Constrained Auctions with Unassured Priors: Strategic Equivalence and Structural Properties**

**Zhaohua Chen**, Mingwei Yang, Chang Wang, Jicheng Li, Zheng Cai, Yukun Ren, Zhihua Zhu, and Xiaotie Deng

**WWW 2024 (Oral)**

doi: 10.1145/3589334.3645344  
ArXiv: 2203.16816  
SSRN: 4071291

**Dynamic Budget Throttling in Repeated Second-Price Auctions**

**Zhaohua Chen\***, Chang Wang\*, Qian Wang\*, Yuqi Pan, Zhuming Shi, Zheng Cai, Yukun Ren, Zhihua Zhu, and Xiaotie Deng

**AAAI 2024**

Arxiv: 2207.04690

**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**

( $\alpha\beta$ ) **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**

( $\alpha\beta$ ) **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**

( $\alpha\beta$ ) 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

## JOURNAL PAPERS

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

( $\alpha\beta$ ) **Zhaohua Chen**, Xiaotie Deng, Wenhan Huang, Hanyu Li, and Yuhao Li

***Information and Computation***

doi: 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

### A Provable Softmax Reputation-based Protocol for Permissioned Blockchains

( $\alpha\beta$ ) 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

## 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 Alibaba**

2024.07 –

**Mentor:** Zhilin Zhang

**Topic:** Design and analysis of mechanisms and algorithms in the online market

**Research Intern at DeCus.io (under Conflux)**

2020.09 – 2021.10

**Mentors:** Ge Chen, Tian Lin, Guang Yang

**Topic:** Group assignment scheme design in decentralized asset custody

**Research Intern at Conflux**

2020.03 – 2020.09

**Mentor:** 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:**

*Discrete Math and Structures (I)*

Peking University, 2023.09 – 2024.01

<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:

NeurIPS 2024, FOCS 2024, WWW 2024, GameSec 2021

### Journal Reviewing:

SIAM Journal on Computing

### Services in Academic Organizations:

Administrative assistant

CCF TCCE, 2022.08 –

### Organizing:

Chair of undergraduate research forum

IJTCS 2021

Leader of volunteer group

WINE 2020

### Volunteering:

IJTCS-FAW 2023, CSIAM-BTAF 2021, IJTCS 2020

## HONORS

China Industrial Bank Scholarship	2024
Presidential Scholarship	2024
UBIQUANT Scholarship	2023
The China Optics Valley Scholarship	2022
3 <sup>rd</sup> Prize of Peking University Scholarship	2020
National Scholarship	2019
Jingjishijie Scholarship	2018

Merit Student	2024
Merit Student	2023
Merit Student	2022
Excellent Graduate of Peking University	2021
Merit Student	2020
Merit Student	2019
Merit Student	2018

3 <sup>rd</sup> Place in Captial Colledge Student Billiards Championship (Single)	2021
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