

ZHAOHUA CHEN

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

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

RESEARCH INTERESTS

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

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: 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
GPA: 3.768 / 4

INTERNSHIPS

Research Assistant at **The University of Hong Kong** 2025.05 – 2025.10
Mentor: Zhiyi Huang

Research Intern at **Taobao & TMall Group** 2024.07 –
Mentor: Zhilin Zhang
Topic: Design and analysis of mechanisms and algorithms in the e-commerce 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

PUBLICATIONS

PAPERS UNDER REVIEW

- [P1] **Budget-Constrained Auctions with Unassured Reports: Strategic Equivalence and Structural Properties**
Zhaohua Chen, Mingwei Yang, Chang Wang, Jicheng Li, and Xiaotie Deng
Major revision at Management Science
EC 2025 Workshop on Frontiers of Online Advertising (Spotlight)
 Preliminary conference version appeared in WWW 2024
- [P2] **Ad Insertion in LLM-generated Responses**
 Shengwei Xu*, **Zhaohua Chen***, Zhiyi Huang, Grant Schoenebeck, and Xiaotie Deng
EC 2025 Workshop on Frontiers of Online Advertising (Spotlight)
- [P3] **Product Marketing Management on the E-Commerce Platform**
Zhaohua Chen, Qingmao Yao, Yao Zhu, Ningyuan Li, Yurong Chen, Zhilin Zhang, Chuan Yu, Jian Xu, Bo Zheng, and Xiaotie Deng
EC 2025 Workshop on Online Learning and Economics
- [P4] **A Simple Proof for Pandora's Box with Forest Order Constraints**
 $(\alpha\beta)$ **Zhaohua Chen**, Xiaotie Deng, and Hu Fu

JOURNAL ARTICLES

- [J1] **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
- [J2] **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
- [J3] **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

CONFERENCE PROCEEDINGS

- [C1] **Contextual Decision-Making with Knapsacks Beyond the Worst Case**
Zhaohua Chen, Rui Ai, Mingwei Yang, Yuqi Pan, Chang Wang, and Xiaotie Deng
NeurIPS 2024
 arXiv: 2211.13952
- [C2] **Are Bounded Contracts Learnable and Approximately Optimal?**
 $(\alpha\beta)$ Yurong Chen, **Zhaohua Chen**, Xiaotie Deng, and Zhiyi Huang
EC 2024
EC 2025 Workshop on Online Learning and Economics

- doi: 10.1145/3670865.3673483
arXiv: 2402.14486
- [C3] **Robust Decision Aggregation with Second-order Information**
Yuqi Pan, **Zhaohua Chen**, and Yuqing Kong
WWW 2024
doi: 10.1145/3589334.3645384
arXiv: 2311.14094
- [C4] **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
- [C5] **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
- [C6] **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
- [C7] **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
- [C8] **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
- [C9] **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
- [C10] **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

1. CN112419060B. **Asset hosting system, asset management method, node and medium**
Inventor: YANG GUANG, **CHEN ZHAOHUA**, WU MING, LONG FAN, LI CHENXING

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

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

Journal Reviewing:

SIAM Journal on Computing

Conference Reviewing:

WSDM 2026, WINE 2025, ICML 2025, NeurIPS {2025, 2024}, FOCS 2024, WWW 2024, ICDCS 2022, GameSec 2021

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 & AWARDS

Short-term Exchange Program for Ph.D. Students in Peking University

2024

SLB Scholarship

2024

Presidential Scholarship	2024
UBIQUANT Scholarship	2023
The China Optics Valley Scholarship	2022
3 rd 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 rd Place in Captial College Student Billiards Championship (Single)	2021
2 nd Place in Captial College Student Billiards Championship (Team)	2019
3 rd Prize in “Tencent Cup” Peking University Programming Contest	2019