

Zerui Cheng

📍 Princeton, NJ 08544 🏠 zerui-cheng.com [in linkedin.com/in/zerui-cheng/](https://www.linkedin.com/in/zerui-cheng/) ✉ zerui.cheng@princeton.edu

EDUCATION

Princeton University, Electrical and Computer Engineering	Aug 2023 - Jan 2025 (Expected)
<i>Pursuing an M.S.E. degree, Fully-funded, Advised by: Prof. Pramod Viswanath</i>	<i>Current GPA: 4.00/4.00</i>
Tsinghua University, “Yao Class” Honored Program	Aug 2019 - Jun 2023
<i>B.Eng. with Hons in Computer Science, summa cum laude, “Yao Award” recipient</i>	<i>GPA: 3.91/4.00</i>

SKILLS

Spoken Languages:

Chinese/Mandarin (native), English (111pts in TOEFL iBT, R30 L27 S24 W30)

Programming Languages:

Most Proficient: C/C++ Frequently Used: Python

Also familiar with: Golang, Matlab, Solidity, SQL, Verilog

PAPERS

- Suma Bhat, Canhui Chen, **Zerui Cheng**, Zhixuan Fang, Ashwin Hebbar, Sreeram Kannan, Ranvir Rana, Peiyao Sheng, Himanshu Tyagi, Pramod Viswanath, and Xuechao Wang. “*SAKSHI: Decentralized AI Platforms*”, in *arXiv preprint arXiv:2307.16562*.
- Canhui Chen*, **Zerui Cheng***, Shutong Qu, and Zhixuan Fang. “*Crowdsourcing Work as Mining: A Decentralized Computation and Storage Paradigm*”, In *Proceedings of the 7th Asia-Pacific Workshop on Networking*, pp. 174-175. 2023.
- Tiancheng Xie, Jiaheng Zhang, **Zerui Cheng**, Fan Zhang, Yupeng Zhang, Yongzheng Jia, Dan Boneh, and Dawn Song. “*zkBridge: Trustless cross-chain bridges made practical*”, in *Proceedings of the 2022 ACM SIGSAC Conference on Computer and Communications Security* (pp. 3003-3017).

COMPETITION HONORS AND AWARDS

OFFICIAL COMPETITIVE PROGRAMMING CONTESTS

3rd Place in ICPC¹ Greater New York Regional Contest	Oct 2023
Member of team “Princeton-1”. Final scoreboard: http://acmgnyr.org/year2023/scoreboard_final/index.html	
The only team in Princeton that qualified for ICPC North America Championship 2024.	
Silver Medal in CCPC² Mianyang Site	Oct 2022
Gold Medal in CCPC Harbin Site	Nov 2021
7 th place out of 240 participating teams nationwide.	
Gold Medal in ICPC Yinchuan Regional Contest	May 2021
5 th place out of 511 participating teams nationwide.	
Silver Medal in ICPC East-Asia Continental Final	Apr 2021
Gold Medal in CCPC Changchun Site	Nov 2020
8 th place out of 324 participating teams nationwide.	
Two Silver Medals in CCF NOI (Chinese National Olympiad in Informatics)	Jul 2017, Jul 2018
65 th place nationwide in 2018, while unfortunately 64 gold medals were set.	

¹ICPC is short for International Collegiate Programming Contest.

²CCPC is short for Chinese Collegiate Programming Contest.

Gold Medal in CTSC (Chinese Team Selection Contest) for Informatics 2018 14 th place out of 544 participants nationwide.	May 2018
First Place in Anhui Provincial Team Selection Contest for CCF NOI 2018	Apr 2018
Gold Medal in CCF NOI Winter Camp 2018 12 th place out of 587 participants nationwide.	Jan 2018
OTHER COMPETITIVE PROGRAMMING CONTESTS	
16th worldwide (out of all 182,781 hackers) on HackerRank See https://www.hackerrank.com/leaderboard for details.	till now
1st place in Princeton Competitive Programming Club Spring Special Contest See https://competitive-programming.cs.princeton.edu/hello_spring_24 for details.	Feb 2024
1st place in Princeton Computer Science Contest 2023 Member of team “temp name”. See https://princetonacm.github.io/coscon/ for details.	Dec 2023
124th worldwide (out of 20,324 participants) in Meta HackerCup 2023 Scoreboard: https://www.facebook.com/codingcompetitions/hacker-cup/2023/round-3/scoreboard	Nov 2023
155th worldwide (top 0.5%) in Google CodeJam 2022	Jun 2022
Second Place in “Leetcode Cup” National Programming Contest	Oct 2019
OTHER COMPETITION HONORS/AWARDS	
Champion of IC3 Blockchain Summer Camp Hackathon Member of project “Client Security”. Event Website: https://www.initc3.org/events/2022-08-01-ic3-blockchain-camp-2022	Aug 2022
First Prize in China Collegiate Mathematical Contest	Dec 2020
22th place (out of ~513,000) in the National College Entrance Exam in Anhui Province	Jun 2019
ACADEMIC HONORS AND AWARDS	
First-year Fellowship for Graduate student at Princeton University	Aug 2023
Excellent Diploma Thesis Award at Tsinghua University 5 out of 94 are selected in Yao Class.	Jun 2023
Yao Class Departmental summa cum laude 23 out of 94 students are selected in Yao Class.	Jun 2023
Yao Award (the most prestigious honor for a Yao Class student) Bronze Medal (Only 1 gold, 2 silvers, and 3 bronzes are given out in CS track, with winning rate $\leq 10\%$)	Sep 2022
Scholarship for Comprehensive Excellence in All Aspects	Sep 2022
Scholarship for Excellence in Academic Achievements	Sep 2021
Scholarship for Excellence in Scientific and Technological Innovation	Sep 2021
Scholarship for Excellence in Social Activities and Voluntary Work	Sep 2020
Xuetang Scholarship (Tuition Fee Exemption for Undergraduate Study) Only awarded to a small portion of selected students in “Xuetang program”.	Annual, 2019 - 2023

- Undergraduate Diploma Thesis, Tsinghua University** | *Advisor: Prof. Zhixuan Fang* Feb 2023 - Jun 2023
- Worked on designing a decentralized platform on top of blockchains for fair and transparent AI service, mainly exploring how to leverage techniques in cryptography (zero-knowledge proof) to deliver trust in the platform, namely “Proof-of-Inference” (PoI).
 - Wins the “Excellent Diploma Thesis Award” of Tsinghua University (only 5 out of 94 in Yao Class).
 - As part of the “SAKSHI” project, collaborated with a set of perfect talents from across the world, and co-authored the whitepaper “SAKSHI: Decentralized AI Platforms” for the project (live on ArXiv in July 2023).
- Research Intern, University of California, Berkeley** | *Advisor: Prof. Dawn Song* Jan 2022 - Aug 2022
- Mentored by Dawn’s Ph.D. student Tiancheng Xie, now CTO of Polyhedra.
 - Worked on cross-chain bridge protocol design and implementation with zero-knowledge proofs.
 - Collaborated with a set of fantastic people from both industry and academia, and learned quite a lot.
 - Co-authored the paper “zkBridge: Trustless Cross-chain Bridges Made Practical” (published in ACM CCS 2022).
- Research Intern, Duke University** | *Advisor: Prof. Fan Zhang* Jan 2022 - Aug 2022
- Worked on designing, analyzing, and simulating side contracts against EIP-1559 protocol on Ethereum.
 - Used C++, Python to interact with an Ethereum full node, do data analysis, and simulate the protocol.
- Student Research Training Program, Tsinghua University** | *Advisor: Prof. Zhixuan Fang* Sep 2021 - Feb 2022
- Worked on mechanism design and implementation of a new protocol aimed at re-utilizing computation power for general and useful computation in PoW blockchains.
 - Collaborated with Canhui, Ph.D. student in Prof. Fang’s group, and Shutong, one of my best friends during my undergraduate, on both protocol design and prototype implementation.
 - The paper “Crowdsourcing Work as Mining: A Decentralized Computation and Storage Paradigm”, of which I am the co-first author, is published in APNET 2023.
- Research Intern, Shanghai Qizhi Institute** | *Advisor: Prof. Zhixuan Fang* Jul 2021 - Aug 2021
- Worked on modeling and mathematical analysis (using queueing theory) of blockchain transaction waiting time.
- Student Research Training Program, Tsinghua University** | *Advisor: Prof. Zhixuan Fang* Oct 2020 - Jun 2021
- Worked on analysis of multi-agent selfish mining on Bitcoin in both theory and simulation.
 - The results were presented at IC3 Blockchain Summer Camp in 2022.

SOCIAL WORK AND ACTIVITIES

- Participant of TV program “Super Brain” broadcast at Jiangsu Channel** Jan 2023
Finished at top 50 across China.
- President, Yao Class Students’ Congress, Tsinghua University** Oct 2022 - Jun 2023
Organized regular social activities for Yao Class students.
Connected students with leading tech companies and investment companies.
Took responsibility for managing the money and accounts of Yao Class Students’ Congress.
Held the yearly Students’ Congress work report to all students, and led the yearly new member recruitment.
- Deputy Secretary, Yao Class Youth League, Tsinghua University** Oct 2021 - Sep 2022
Attended bi-weekly meetings hosted by Tsinghua University, and delivered announcements from university to students.
Also did a lot of statistical work and paperwork for Yao Class students.
- Vice President, Yao Class Students’ Congress, Tsinghua University** Oct 2021 - Sep 2022
Took responsibility for departmental public space management (noise control, access control, regular cleaning, etc.)
- Problem Setter, Chinese National Olympiad in Informatics** Jul 2021
Set the problem “Quantum communication”, the first problem in Day 2’s contest.
Received a lot of positive feedback from contestants.
Voted as the best problem in the whole contest from the post-contest survey.
- Volunteer of the 110th Anniversary of Tsinghua University** Apr 2021
- Member, Organization Department, Yao Class Students Congress** Aug 2020 - Sep 2021
- Member, Tsinghua University Algorithm Association** Jul 2020 - Feb 2022
Problem setter and contest organizer of Tsinghua University Programming Contest (THUPC) in 2020 and 2021.