

# Zerui Cheng

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## Education

**Princeton University, Dept of Electrical and Computer Engineering**

**Princeton, NJ, United States**

*Ph.D. Candidate, GPA: 4.00/4.00*

*Aug 2023 – Jul 2027 (expected)*

- Research focus: Large language models, AI evaluation, Blockchains
- Advisor: Prof. Pramod Viswanath

**Tsinghua University, the Institute for Interdisciplinary Information Sciences**

**Beijing, China**

*B.Eng. in Computer Science (Honors), GPA: 3.91/4.00*

*Aug 2019 – Jun 2023*

- “Yao Class” talent program (founded by Turing Award winner Andrew C. Yao), graduated *summa cum laude*
- “Yao Award” recipient (most prestigious honor, top 10% of Yao Class)
- Excellent diploma thesis award winner (top 5% of Yao Class); Thesis Advisor: Prof. Zhixuan Fang
- Visiting student researcher at Duke University (2022), Advisor: Prof. Fan Zhang
- Visiting student researcher at the University of California, Berkeley (2022), Advisor: Prof. Dawn Song

## Selected Publications

For most recent updates, the full publication list is available at: [Link to Google Scholar](#).

\* denotes equal contributions.

**2025:**

### ○ **FrontierCS** [\[Project Page\]](#)

Qiuyang Mang, Wenhao Chai, Zhifei Li, Huanzhi Mao, Shang Zhou, Alexander Du, Hanchen Li, Shu Liu, Edwin Chen, Yichuan Wang, Xieting Chu, **Zerui Cheng**, Yuan Xu, Tian Xia, Zirui Wang, Tianneng Shi, Jianzhu Yao, Yilong Zhao, Qizheng Zhang, Charlie Ruan, Zeyu Shen, Kaiyuan Liu, Runyuan He, Dong Xing, Zerui Li, Zirong Zeng, Yige Jiang, Lufeng Cheng, Ziyi Zhao, Youran Sun, Wesley Zheng, Meiyuwang Zhang, Ruyi Ji, Xuechang Tu, Zihan Zheng, Zexing Chen, Kangyang Zhou, Zhaozi Wang, Jingbang Chen, Aleksandra Korolova, Peter Henderson, Pramod Viswanath, Vijay Ganesh, Saining Xie, Zhuang Liu, Dawn Song, Sewon Min, Ion Stoica, Joseph E. Gonzalez, Jingbo Shang, Alvin Cheung. “FrontierCS: Evolving Challenges for Evolving Intelligence.” arXiv preprint arXiv:2512.15699 (2025).

### ○ **Kite AI Whitepaper** [\[Project Page\]](#)

Scott Shi, **Zerui Cheng**, Chen Xi, Yi Huang, Lyon Li, Uddhav Marwaha, David Weber, and Chi Zhang. “From Human-Centric to Agent-Native: Building Trustless Payment Infrastructure for Agentic AI.” (2025)

### ○ **PeerBench** [\[Project Page\]](#)

**Zerui Cheng\***, Stella Wohnig\*, Ruchika Gupta\*, Samiul Alam\*, Tassallah Abdullahi, João Alves Ribeiro, Christian Nielsen-Garcia, Saif Mir, Siran Li, Jason Orender, Seyed Ali Bahrainian, Daniel Kirste, Aaron Gokaslan, Carsten Eickhoff, and Ruben Wolff. “Position: Benchmarking is Broken - Don't Let AI Be Its Own Judge” [NeurIPS 2025]

### ○ **CAIA (Crypto AI Agent Benchmark)**: Zeshi Dai\*, Zimo Peng\*, **Zerui Cheng\***, and Ryan Yihe Li. “When Hallucination Costs Millions: Benchmarking AI Agents in High-Stakes Adversarial Financial Markets.” [ICAF 2025 AI4F, AI-R2D2]

### ○ **NAO (Nondeterminism-Aware Optimistic Verification for Floating-Point Neural Networks)**:

Jianzhu Yao, Hongxu Su, Taobo Liao, **Zerui Cheng**, Huan Zhang, Xuechao Wang, and Pramod Viswanath. “Nondeterminism-Aware Optimistic Verification for Floating-Point Neural Networks.” (2025).

### ○ **AutoCode** [\[Project Page\]](#)

Shang Zhou\*, Zihan Zheng\*, Kaiyuan Liu\*, Zeyu Shen\*, **Zerui Cheng\***, Zexing Chen, Hansen He et al. “AutoCode: LLMs as Problem Setters for Competitive Programming.” (2025).

### ○ **LiveCodeBench Pro** [\[Project Page\]](#)

Zihan Zheng\*, **Zerui Cheng\***, Zeyu Shen\*, Shang Zhou\*, Kaiyuan Liu\*, Hansen He\*, Dongruixuan Li, Stanley Wei, Hangyi Hao, Jianzhu Yao, Peiyao Sheng, Zixuan Wang, Wenhao Chai, Aleksandra Korolova, Peter Henderson, Sanjeev

Arora, Pramod Viswanath, Jingbo Shang, and Saining Xie. "LiveCodeBench Pro: How Do Olympiad Medalists Judge LLMs in Competitive Programming?" [NeurIPS 2025]

- Jun 24, 2025: Featured in MIT Technology Review.
- Aug 4, 2025: Invited talk at OpenAGI Symposium at the University of California, Berkeley
- Aug 15, 2025: Invited talk at "AI4Science x AI Security Community" hosted by alphaXiv

- **OML Primitive: Zerui Cheng**, Edoardo Contente, Benjamin Finch, Oleg Aleksandrovich Golev, Jonathan Hayase, Andrew Miller et al. "OML: A Primitive for Reconciling Open Access with Owner Control in AI Model Distribution." In NeurIPS 2025 Lock-LLM Workshop: Prevent Unauthorized Knowledge Use from Large Language Models.

- Oct 15, 2025: Invited public talk hosted by Decentralized AI Institute and 5 other co-hosts.

- **SPIN-Bench** [Project Page]

Jianzhu Yao\*, Kevin Wang\*, Ryan Hsieh, Haisu Zhou, Tianqing Zou, **Zerui Cheng**, Zhangyang Wang, and Pramod Viswanath. "Spin-bench: How well do llms plan strategically and reason socially?" [COLM 2025]

- **HLE**: Long Phan, ..., Lennart Finke, **Zerui Cheng**, Jennifer Zampese, ... et al. "Humanity's Last Exam" (2025).

## 2024:

- **OML (Open, Monetizable, and Loyal AI): Zerui Cheng**, Edoardo Contente, Ben Finch, Oleg Golev, Jonathan Hayase, Andrew Miller, Niusha Moshrefi, Anshul Nasery, Sandeep Nailwal, Sewoong Oh, Himanshu Tyagi, and Pramod Viswanath. "Reclaiming "Open AI" – AI Model Serving Can Be Open Access, Yet Monetizable and Loyal" (2024).

- Sep 12, 2024: Initial release as the whitepaper of AI startup Sentient Foundation
- Apr 11, 2025: Poster presentation at Citadel Securities PhD Summit 2025 in Miami
- Jun 16, 2025: Invited talk at Prof. Matthias Bethge's research group at the University of Tübingen

## 2023:

- **Sakshi**: 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" (2023).
- **PoCW (Proof of Crowdsourcing Work)**: Canhui Chen\*, **Zerui Cheng\***, Shutong Qu, and Zhixuan Fang. "Crowd-sourcing Work as Mining: A Decentralized Computation and Storage Paradigm". [APNET 2023]

## 2022:

- **zkBridge**: Tiancheng Xie, Jiaheng Zhang, **Zerui Cheng**, Fan Zhang, Yupeng Zhang, Yongzheng Jia, Dan Boneh, and Dawn Song. "zkBridge: Trustless Cross-chain Bridges Made Practical". [ACM CCS 2022]

## Talks and Presentations

Invited public talk hosted by Decentralized AI Institute and 5 other co-hosts.

1-hour talk on OML Primitive. [Link to video recording]

Online  
Oct 2025

Invited talk at "AI4Science x AI Security Community" hosted by alphaXiv

1-hour talk on LiveCodebench Pro (w/ Peiyao Sheng).

Online  
Aug 2025

Invited talk at OpenAGI Symposium hosted by Sentient

20-min talk on LiveCodebench Pro at UC Berkeley.

Berkeley, CA  
Aug 2025

Invited talk at the University of Tübingen hosted by Prof. Matthias Bethge

1-hr talk on OML.

Online  
Jun 2025

Ph.D. General Exam Research Seminar

1-hr talk on OML. Committee members: Prof. Pramod Viswanath, Prof. Sanjeev Kulkarni, Prof. Chi Jin

Princeton, NJ  
Apr 2025

Poster presentation at Citadel Securities PhD Summit

2-hr poster session with top PhD students and quantitative researchers at CitSec on OML.

Miami, FL  
Apr 2025

Poster presentation at Princeton DeCenter Spring Conference

1-hr poster session on SCTest: Automated smart contract generation with AI (w/ group members).

Princeton, NJ  
Apr 2024

Invited talk at Yao Seminar #48

1-hr talk on zkBridge: trustless cross-chain bridges by zero-knowledge proofs.

Beijing, China  
Jun 2023

Presentation at IC3 Blockchain Summer Camp 2022

10-min lightning session on multi-agent selfish mining (w/ Shutong Qu) at Cornell University.

Ithaca, NY  
Nov 2022

## Professional Experience

<b>ByteDance Seed</b> <i>Student Researcher (Part-time)</i> Research on reliable and generalizable evaluation of large language models. Mentor: Jiashuo Liu	<b>Remote</b> Sep 2025 – Present
<b>Kite AI</b> <i>Whitepaper and Research Collaborator</i> Research on Proof of Attributed Intelligence for AI-native blockchain operations. Author of Kite AI whitepaper. Mentor: Scott Shi	<b>Remote</b> Jun 2025 – Jul 2025
<b>JQ Investments</b> <i>Quantitative Research Intern</i> Developed alpha strategies through large-scale financial data analysis. Mentor: Kevin Zhang	<b>Shanghai, China</b> Aug 2024 – Sep 2024
<b>Sentient Foundation</b> <i>AI Fellow</i> Led formulation and development of OML framework for AI intellectual property protection using cryptographic primitives. Lead author of Sentient whitepaper “OML – Unleashing the Era of AI Entrepreneurship”. Mentor: Prof. Pramod Viswanath, Prof. Sewoong Oh	<b>Princeton, NJ</b> May 2024 – Aug 2024
<b>PolyHedra Network</b> <i>Research Intern</i> Designed blockchain cross-chain bridges using zero-knowledge proofs. Author of PolyHedra whitepaper (zkBridge). Mentor: Tiancheng Xie	<b>Remote</b> Jul 2022 – Dec 2022
<b>Shanghai Qizhi Institute</b> <i>Research Intern</i> Worked on modeling and queueing theory analysis of blockchain transaction waiting time. Mentor: Zhixuan Fang	<b>Shanghai, China</b> Jul 2021 – Aug 2021

## Scholarships and Academic Awards

<b>First-year Ph.D. Fellowship</b>	<b>Princeton University</b> Aug 2023
<b>Departmental summa cum laude</b> <i>Top 20% in Yao Class</i>	<b>Tsinghua University</b> Jun 2023
<b>Excellent Diploma Thesis Award</b> <i>Top 5% in Yao Class</i>	<b>Tsinghua University</b> Jun 2023
<b>Yao Award (Bronze Medal)</b> <i>Top 10% in Yao Class</i> Most prestigious honor in Yao Class, awarded by Dean Andrew Chi-Chih Yao	<b>Tsinghua University</b> Sep 2022
<b>Scholarship for Comprehensive Excellence</b>	<b>Tsinghua University</b> 2022
<b>Scholarship for Excellence in Academic Achievements</b>	<b>Tsinghua University</b> 2021
<b>Scholarship for Excellence in Scientific and Technological Innovation</b>	<b>Tsinghua University</b> 2021
<b>Scholarship for Excellence in Social Activities and Voluntary Work</b>	<b>Tsinghua University</b> 2020
<b>Xuetang Scholarship</b> <i>Full tuition exemption</i>	<b>Tsinghua University</b> 2019-2023

## Competitive Programming Achievements

<b>Career Achievement</b> .....
<b>May 2024:</b> Competitive Programming <b>Hall of Fame Member</b> [ <a href="#">Hall of Fame Personal Page</a> ]
<b>Recent Highlights in North America</b> .....
<b>May 2025:</b> <b>26th Place</b> , ICPC North America Championship (NAC 2025)
<b>Nov 2024:</b> <b>4th Place</b> , ICPC Greater New York Regional (qualified for NAC 2025 representing Princeton)

**Nov 2024: 93rd worldwide** (top 0.4%), Meta HackerCup  
**May 2024: 22nd Place**, ICPC North America Championship (\$3000 prize for first solution award)  
**Nov 2023: 3rd Place**, ICPC Greater New York Regional (qualified for NAC 2024 representing Princeton)  
**University Competitions**.....  
**Dec 2024: 2nd Place**, Princeton Computer Science Contest (Princeton COSCON 2024)  
**May 2024: Finalist** (Top 16 in USA), MIT Informatics Tournament Spring Invitational (MITIT 2024)  
**Dec 2023: 1st Place**, Princeton Computer Science Contest (Princeton COSCON 2023)  
**Earlier Achievements in East Asia**.....  
**2020-2022: Multiple Gold/Silver Medals** in ICPC/CCPC regional contests and continental finals.  
ICPC: Gold (Yinchuan Regional 2021), Silver (East-Asia Continental Final 2021);  
CCPC: Gold (Changchun 2020, Harbin 2021), Silver (Mianyang 2022);  
**2019: 2nd Place**, LeetCode Cup National Programming Contest  
**2017-2018: Silver Medalist** (2x), Chinese National Olympiad in Informatics (NOI).  
**Problem Setting**.....  
**Jul 2021:** Problem setter of Chinese National Olympiad in Informatics (NOI 2021 Day 2 Problem 1).  
**2021-2022:** Problem setter and validator of Tsinghua University Programming Contest (THUPC 2021,2022).  
**Nov 2017:** Lead author of Codeforces Round 447.

**Other Honors**

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**Aug 2022: 1st Place**, IC3 Blockchain Summer Camp Hackathon 2022  
**Dec 2020: First Prize**, China Collegiate Mathematics Contest

**Teaching and Service**

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<b>Princeton COS/ECE 470: Principles of Blockchains</b> <i>Head Teaching Assistant</i>	<i>Sep 2024 – Jan 2025</i>
○ Redesigned final project combining blockchain and AI, receiving exceptional student feedback	
○ Led 3 hands-on in-class labs and coordinated grading for 80+ students	
○ Nominated for Princeton E-Council Teaching Awards (Fall 2024)	
<b>NeurIPS 2025 Reliable ML Workshop</b> <i>Reviewer</i>	<i>2025</i>
<b>IEEE/ACM Transactions on Networking (IEEE ToN)</b> <i>Reviewer</i>	<i>2025</i>
<b>IEEE Journal on Selected Areas in Communications (IEEE JSAC)</b> <i>Reviewer</i>	<i>2022</i>
<b>China Computer Federation (CCF)</b> <i>Student Expert and Problem Setter of National Olympiad in Informatics of China (NOI 2021)</i> Authored problem (“Quantum Communication”, Day 2 Problem 1) voted “best in contest”	<i>2021</i>
<b>Tsinghua University Algorithm Association</b> <i>Core contributor.</i>	<i>2020-22</i>
<b>Yao Class Youth League</b> <i>Deputy Secretary.</i>	<i>2021-22</i>
<b>Yao Class Students’ Congress</b> <i>President (2022-23); Vice president (2021-22); Member (2020-21)</i>	<i>2020-23</i>

**TV Appearances**

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<b>TV Show “Super Brain Season 10”</b> <i>Participant</i>	<b>JSBC (Jiangsu Satellite TV)</b> <i>2023</i>
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## Languages

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**Chinese (Mandarin):** Native

**English:** Fluent (TOEFL iBT: 111/120)