

# Zerui Cheng (程泽瑞)

## PERSONAL DETAILS

**Date of Birth:** Jul 12, 2001

**Place of Birth:** Wuhu, Anhui Province, China ([learn more about my hometown](#))

**Personal Website:** <https://zerui-cheng.com>

**Phone Number:** +86-17855329418

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## CURRENT STUDY

**Institution:** Tsinghua University

**Department:** Institute for Interdisciplinary Information Sciences ([learn more](#))

**Class:** Yao Class ([an undergraduate honor program](#) directed by [Andrew Yao](#))

**Current Study Level:** Year 3 Undergraduate

**Major:** Computer Science

**Current Cumulative Grade Point Average:** 3.9/4.0

## RESEARCH INTERESTS

**Main Interests:** Blockchain (especially mechanism and incentive design)

**Others:** Algorithms, Game Theory, Privacy and Security etc.

## PROJECTS

**Game Theoretical Analysis of Selfish Mining in Blockchain ([link](#))**

Oct 2020 -May 2021

*Students' Research Training Project, advised by Prof. Zhixuan Fang*

**A Survey on Blockchain System and Related Cryptographic Methods ([link](#))**

Apr 2021 - June 2021

*Project of course <Fundamentals of Crypto> , instructed by Prof. Yilei Chen*

**An Algorithm for Graph Matching with Restrictions on Edge Weights,  
Based on Number Theory, Linear Algebra and Randomization ([link](#))**

May 2021 - June 2021

*Project of course <Numerical Analysis> , instructed by Prof. Wenjian Yu*

**Crowdsourcing Work as Mining: A Decentralized Computing Paradigm ([link](#))**

June 2021 - Feb 2022

*Advised by Prof. Zhixuan Fang, paper in submission now*

**zkBridge: Trustless Cross-chain Bridges Made Practical ([link](#))**

Feb 2022 till now

*Advised by Prof. Fan Zhang and Prof. Dawn Song,  
mentored by Tiancheng Xie, paper in submission now*

## **RESEARCH INTERNSHIP**

**Undergraduate Research Intern in Shanghai Qizhi Institute**

Themed "PoUW on Public Chain"    Advised by [Prof. Zhixuan Fang](#)

Jul 2021 - Aug 2021

**Research Intern at Duke University**

Themed "Side-contract on Ethereum"    Advised by [Prof. Fan Zhang](#)

Feb 2022 till now

**Research Intern at the University of California, Berkeley**

Themed "Design and Implementation of zk-Bridge"    Advised by [Prof. Dawn Song](#)

Feb 2022 till now

## **HONORS / AWARDS**

### **Competitive Programming Contests**

**Silver Medal in National Olympiad in Informatics**

Jul 2018

**Second Place in "Leetcode Cup" National Programming Contest**

Oct 2019

<b>Gold Award in CCPC (Changchun Site, 8<sup>th</sup> place)</b>	<b>Nov 2020</b>
<b>Silver Award in ICPC (East Continental Final)</b>	<b>Apr 2021</b>
<b>Gold Award in ICPC (Yinchuan Site, 5<sup>th</sup> place)</b>	<b>May 2021</b>
<b>Gold Award in CCPC (Harbin Site, 7<sup>th</sup> place)</b>	<b>Nov 2021</b>
<b>155<sup>th</sup> worldwide (out of 32702) in Google CodeJam 2022</b>	<b>June 2022</b>

### **Mathematics Competitions**

<b>First Prize in 12<sup>th</sup> Chinese National Maths Competition</b>	<b>Dec 2020</b>
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### **Scholarships**

<b>Scholarship for Excellence in Voluntary Work and Social Activities</b>	<b>Oct 2020</b>
<b>Scholarship for Excellence in Academic Achievements</b>	<b>Oct 2021</b>
<b>Scholarship for Excellence in Scientific and Technological Innovation</b>	<b>Oct 2021</b>
<b>Scholarship of Tuition Fee Exemption (Xuetang Program)</b>	<b>Annual, From 2019</b>

### **SOCIAL WORK**

<b>Vice President, IIS Students' Union</b>	<b>From Oct 2021</b>
<b>Deputy Secretary, IIS Youth League Committee</b>	<b>Oct 2021 - Feb 2022</b>
<b>League Branch Secretary of Yao Class 92</b>	<b>From Sep 2021</b>
<b>Member, Contest Staff Department of THU Algorithm Association</b>	<b>From Jul 2020</b>
<b>Member, Organization Department of IIS Students' Union</b>	<b>Aug 2020 - Sep 2021</b>

### **REMARKABLE ACTIVITIES**

<b>Volunteer of the 110<sup>th</sup> anniversary of Tsinghua University</b>	<b>Apr 2021</b>
<b>Problem Setter of NOI 2021 (National Olympiad in Informatics)</b>	<b>Jul 2021</b>

## **SKILLS**

***Programming Skills:*** C/C++ (proficient), Python, Solidity, Golang

***Language Skills:*** Chinese (native) , English (108pts in TOEFL, R30, L27, S21, W30)

(Last Updated: Aug 1,2022)