

Ziyi Cai | Curriculum Vitae

Shanghai Jiao Tong University 800 Dongchuan Road – 200240 Shanghai
P.R. China

✉ crazycloudczy@gmail.com • 🌐 acrazyczy

Information

Description: I am an undergraduate student in ACM Honor class, Zhiyuan college, Shanghai Jiao Tong University. I am broadly interested in theoretical computer science, especially in machine learning, computational complexity and logic.

Education

Shanghai Jiao Tong University

B.E. in Engineering in Computer Science

Shanghai

Sept 2019 –present

○ Average Score: 88.1 / 100

○ GPA: 3.73 / 4.0

○ Ranking: 11 / 30

Experience

Research.....

University of Southern California

Research Intern advised by Prof. Jiapeng Zhang

Feb 2022 –present

Research Topic: spectral methods, PCA

I am now working on foundations of machine learning algorithm. Specifically, I am trying to analyse the performance of classic spectral clustering algorithm under general or advanced settings.

Shanghai Jiao Tong University

Undergraduate Researcher advised by Prof. Yijia Chen

BASICS Lab

Aug 2021 –present

Research Topic: algorithmic meta-theorems, parameterized complexity

I am now working on algorithmic meta-theorems. Specifically, I am trying to reveal the underlying logic connection between efficiently tractable problems and extend the tractability to more general cases. I mainly focus on parity game over specific classes of graphs and the resolution size of unsatisfiable CNF parameterized by graph based parameters.

Vocational.....

Shanghai Jiao Tong University

Teaching Assistant of Great Ideas in Computer Science

Sept 2022–Jan 2023

I prepared and gave several lectures on introduction of computational complexity for juniors at ACM Honor Class.

Shanghai Jiao Tong University

Teaching Assistant of Probability and Computing

Jun 2022–Jul 2022

Shanghai Jiao Tong University

Teaching Assistant of Mathematical Logic

Sept 2021–Jan 2022

Shanghai Jiao Tong University

Teaching Assistant of Programming

Sept 2020–Jan 2021

I led a TA team, and I was deeply involved in the course design.

I'm one of seven initiators and once a maintainer of an online-judge system for not only ACM Honor Class but also other courses in the whole university.

Honors and Awards

Huawei Fellowship

14 winners at Zhiyuan College each year

2021

Zhiyuan Honors Scholarship

Top 5% in SJTU each year

2019, 2020, 2021

Silver Medal

The 35th China National Olympiad in Informatics (NOI)

2018

Skills

- Programming: C++, Python, Latex, Git
- Language: Mandarin Chinese (native), Cantonese (native), English