

Tian ZHOU

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Education

- BS** **The Chinese University of Hong Kong, Shenzhen**, Computer Science Shenzhen, China
Present
- Cumulative GPA: 3.433/4.0, Major GPA: 3.700/4.0
 - **Coursework:** Design and Analysis of Algorithms, Data Structures, Graph Theory, Discrete Mathematics, Software Engineering, Network Programming, Database System
- Waseda University**, Summer Session Tokyo, Japan
Jun 2025 - Jul 2025
- GPA: 4.0/4.0
 - **Coursework:** A+ in Business III (The Art of Japanese IP), A in Culture III (Japanese Popular Culture: Globalization, Cultural production / Consumption and Creative Ecology)

Research Interests

Densest Subgraph Discovery: Building on my experience of learning graph algorithms in competitive programming, combining with some heuristic algorithms, I have learnt some methods of finding maximal k-clique, cohesive subgraphs enumeration, maximal s-bundle (k-relaxed vertex connected components) discovery. Moreover, by learning some optimization algorithms, I did some research on motif densest subgraph discovery and local subgraph counting.

Computational Geometry: Strong interest in geometric algorithm design and analysis, including planar geometry, convex hulls, line segment intersection, and geometric graph construction. Experienced in modeling geometric problems and implementing robust algorithms through extensive competitive programming practice. Particularly interested in the interaction between computational geometry and graph algorithms.

Experience

- The Chinese University of Hong Kong, Shenzhen** Shenzhen, China
Research Assistant, advised by Dr. Yingli Zhou Apr 2025 - Present
- Started from learning Maximal Clique Problem and Hereditary Cohesive Subgraphs Enumeration, then tried to develop the way of solving Maximal S-bundle Problem by extending Maximum S-bundle Problem based on Bron-Kerbosch Algorithm.
 - Learnt Frank-Wolfe Algorithm and k-Clique Densest Subgraph Discovery, and extended the algorithm to Motif (Higher-order) Densest Subgraph Discovery. I was responsible for implementation by C++, and put forward some of my own opinions.
- CUHKSZ Middle School** Shenzhen, China
Competitive Programming Instructor Oct 2025
- Taught students in CUHKSZ Middle School NOIP Team with classical algorithms.
 - Topics like implementation, maths, number theory, basic STL, etc.
 - Self-made clear slides and challenging problems.

Contest Awards

The 49th ICPC Asia Kunming Regional Bronze Medalist Trio-teamed Programming Contest	Kunming, China Nov 2024
2025 GDCPC Silver Medalist Trio-teamed Programming Contest	Guangdong, China May 2025
The 50th ICPC Asia Wuhan Regional Silver Medalist Trio-teamed Programming Contest	Wuhan, China Nov 2025
The 50th ICPC Asia Nanjing Regional Silver Medalist Trio-teamed Programming Contest	Nanjing, China Nov 2025
The 11th CCPC Chongqing Site Bronze Medalist Trio-teamed Programming Contest	Chongqing, China Dec 2025
The 50th ICPC Asia East Continent Finalist Trio-teamed Programming Contest	Hangzhou, China Feb 2026

Projects

CNSML

cnsml.com 
2022-2024

- A simple website Smartlearn(China), with Python Flask and SQLite as backend, HTML, CSS and Javascript as frontend. Built when I was in Guangzhou Foreign Language School's programming club, with two other friends. I was the major host and wrote most of the backend and frontend code.
- The website has functions like regular account system(with register code and administrator manage system), monitoring server status, public and private cloud drive, personal blog, chat room, and some online games.
- Tools Used: Python, Flask, HTML, CSS, Javascript, SQLite, Websocket

skyzhou.top

[github repo](#) 
Present

- A personal blog as main site, recording my daily learning and life, focus on competitive programming algorithms, CUHKSZ's works, graph research and Japanese learning. Built with Hexo in NodeJS, some pages are Mdbook.
- Many other little web application as sub site, containing graph visualization tool, ACM timer, online markdown, ACM online judge, NAS and WebDAV, etc.
- Tools Used: Hexo, NodeJS, Markdown, Mdbook, Latex, Nginx, Web, etc.

Technical Skills

Programming Languages: C++, C, Python, Java, Web(HTML, CSS, Javascript), SQL, Markdown

Development Tools: Git, Linux, WSL, VS Code, IntelliJ IDEA, PyCharm

Mathematical Tools : Graph Theory, Statistical Analysis, Calculus, Linear Algebra, Number Theory, Polynomial and Generating Function, Computation Geometry

Languages

English: Fluent

Japanese: Basic reading level

Chinese: Native