# Benyu Wang

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Updated August 25, 2023

## Interests

- Broad interest in **Theoretical Computer Science**.
- Study and research experience in **Graph Algorithms** / **Combinatorics** / **Complexity Theory**

## Education

**University of Michigan** — **Ann Arbor, US**
PhD student at Computer Science and Engineering (CSE) — Aug 2022 – now
- Advisor: *Prof. Thatchaphol Saranurak*

**Yao Class, Tsinghua University** — **Beijing, China**
B.Eng., Computer Science and Technology — Aug 2019 – Jun 2023
- Advisor: *Prof. Ran Duan*
- GPA: **3.90**/4.00 & For Yao Class courses only: **3.98**/4.00

**Selected Courses**: (A+/A stand for 95-100 in 100-point values, A+ is the best grade)
· Mathematics for Computer Science (**A+**) & Mathematics for Artificial Intelligence (**A+**)
The only one to get both A+ from the two courses instructed by Prof. Andrew Yao in Spring 2020.
· Theory of Computation (**A+**) & Design and Analysis of Algorithms (**A+**)
· Basic Topology (A) & Abstract Algebra (A+) & Game Theory (A) & Cryptography (A)

## Experiences

**University of Michigan** — **Ann Arbor, US**
Undergraduate Research Intern (Visitor) — Feb 2022 – Aug 2022
- Visiting the theory group of UM. Worked with *Prof. Seth Pettie* and *Prof. Thatchaphol Saranurak*.

## Publications

**Tight Conditional Lower Bounds for Vertex Connectivity Problems**
Zhiyi Huang, Yaowei Long, Thatchaphol Saranurak, **Benyu Wang**
- STOC 2023, arXiv:2212.00359.
- We gave **tight lower bounds** for vertex connectivity problems assuming the 4-Clique conjecture. We showed that the all-pairs vertex connectivity problem has complexity $\hat{\Theta}(n^4)$ for combinatorial algorithms and gave hardness results for other vertex connectivity problems, separating the hardness of vertex connectivity problems and related edge connectivity problems.

## Teaching

**Teaching Assistant**, Theory of Computation — Spring 2023, Tsinghua University
Undergraduate theory course instructed by Prof. Ran Duan.

**Teaching Assistant**, Design and Analysis of Algorithms — Fall 2022, Tsinghua University
Graduate-Level algorithm course instructed by Prof. Ran Duan.

## Selected Awards and Scholarships

**Excellent Academic** Scholarship & **Excellent Art** Scholarship of Tsinghua University — 2022
**Excellent Voluntary and Public Service** Scholarship of Tsinghua University — 2020
**Gold Medal** in Chinese Mathematical Olympiad (CMO) (ranked **86th** in China) — 2018
**Silver Medal** in National Olympiad in Informatics (NOI) (ranked **90th** in China) — 2018