

Hanlin Ren

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🌐 <https://hanlin-ren.github.io/>

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Education

August 2016 – Present

📍 **Tsinghua University, China**

Bachelor of Engineering

Major: Computer Science (Special Pilot CS Class, a.k.a Yao Class)

GPA: 3.83/4; rank: 8/38

Research Interests

I am interested in **Algorithm Design** and **Computational Complexity**.

Publications

(Note: in Theoretical Computer Science, the list of authors are usually sorted in alphabetical order.)

- 📖 Constructing a Distance Sensitivity Oracle in $O(n^{2.5794}M)$ Time.
Yong Gu and **Hanlin Ren**.
To appear in ICALP 2021.
- 📖 Approximate Distance Oracles Subject to Multiple Vertex Failures.
Ran Duan, Yong Gu, and **Hanlin Ren**.
SODA 2021.
- 📖 Improved Distance Sensitivity Oracles with Subcubic Preprocessing Time.
Hanlin Ren.
ESA 2020. **Invited to the JCSS special issue for ESA 2020.**
- 📖 Strong Average-Case Circuit Lower Bounds from Non-trivial Derandomization.
Lijie Chen and **Hanlin Ren**.
STOC 2020. **Invited to the SICOMP special issue for STOC 2020.**
- 📖 Approximating All-Pair Bounded-Leg Shortest Path and APSP-AF in Truly-Subcubic Time.
Ran Duan and **Hanlin Ren**.
ICALP 2018.






Manuscripts / In Submission

- 📖 A Relativization Perspective on Meta-Complexity.
Hanlin Ren and Rahul Santhanam.
- 📖 Hardness of KT Characterizes Parallel Cryptography.
Hanlin Ren and Rahul Santhanam.


Academic Talks

- Apr 2021 📖 Hardness of KT Characterizes Parallel Cryptography.
Yaoclass Seminar.
Oxford-Warwick complexity meetings.
- Jan 2021 📖 Approximate Distance Oracles Subject to Multiple Vertex Failures.
SODA 2021 (virtual talk). <https://player.vimeo.com/video/496602190>.





Academic Talks (Continued)

- Dec 2020  Approximate Distance Oracles Subject to Multiple Vertex Failures. Yaoclass Seminar.
- Sep 2020  Improved Distance Sensitivity Oracles with Subcubic Preprocessing Time. ESA 2020 (virtual talk). <https://youtu.be/2Z46AybFkJ8>.
- Jun 2020  Strong Average-Case Circuit Lower Bounds from Non-trivial Derandomization. STOC 2020 (virtual talk). <https://youtu.be/xWDQ4Lef0Vs>.
- Mar 2020  Strong Average-Case Circuit Lower Bounds from Non-trivial Derandomization. Special Interest Group on Mathematics & Algorithms, Institute of Computing Technology, Chinese Academy of Science (virtual talk).
- Jul 2018  Approximating All-Pair Bounded-Leg Shortest Path and APSP-AF in Truly-Subcubic Time. ICALP 2018, Prague, Czech Republic.

Teaching Experience

- 2020 Fall  Design and Analysis of Algorithms (graduate level)
Instructor: Prof. Ran Duan
Teaching assistant

Selected Awards

- Sep 2019  Yao Award, bronze prize
- Sep 2018  Evergrande Scholarship
- Sep 2017  Baidu "Future Star" Scholarship
- Jul 2015  Gold medal (15th place) in Chinese National Olympiad in Informatics (NOI)

Languages

- Chinese  native
- English  TOEFL 110 (Reading 30 + Listening 29 + Speaking 23 + Writing 28, May 2019)

Misc

-  GRE score (May 2019): Verbal 161, Quantitative 170, AW 4.0