Hanlin Ren

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https://hanlin-ren.github.io/ Last updated: Feb 2021

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.)

- Ran Duan, Yong Gu, and **Hanlin Ren**. Approximate Distance Oracles Subject to Multiple Vertex Failures. In *Proceedings of the 32nd ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2021.
- **Hanlin Ren**. Improved Distance Sensitivity Oracles with Subcubic Preprocessing Time. In *Proceedings of the 28th Annual European Symposium on Algorithms (ESA)*, 2020.
  Invited to the JCSS special issue for ESA 2020
- Lijie Chen and **Hanlin Ren**. Strong Average-Case Circuit Lower Bounds from Non-trivial Derandomization. In *Proceedings of the 52nd Annual ACM Symposium on Theory of Computing (STOC)*, 2020.
  Invited to the SICOMP special issue for STOC 2020
- Ran Duan and **Hanlin Ren**. Approximating All-Pair Bounded-Leg Shortest Path and APSP-AF in Truly-Subcubic Time. In *Proceedings of the 45th International Colloquium on Automata, Languages, and Programming (ICALP)*, 2018.

Manuscripts / In Submission

- Yong Gu and **Hanlin Ren**. Constructing a Distance Sensitivity Oracle in $O(n^{2.5794}M)$ Time. *Submitted.*

Academic Talks

Jan 2021 Approximate Distance Oracles Subject to Multiple Vertex Failures.
SODA 2021 (virtual talk). https://player.vimeo.com/video/496602190.

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/xWDQ4LefOVs.

Academic Talks (Continued)

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