Hanyu Li

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EDUCATION

Peking University   Beijing, China
B.S. in Computer Science, Advisor: Prof. Xiaotie Deng   2018–Current

RESEARCH EXPERIENCE

Peking University, *Undergraduate Research*   Beijing, China
Center on Frontiers of Computing Studies, advised by Prof. Xiaotie Deng   2020.7–2021.10

– Approximate Ratio of Nash Equilibrium Computing

– The project focuses on improving theoretical and practical approximate ratios of Nash equilibrium computing. Extensive works have arisen to develop a series of constant approximate ratio results. The work of Tsaknakis and Spirakis [WINE 2007] presented an algorithm with the state-of-the-art approximate ratio of 0.3393, which is an upper bound of the algorithm. Efforts to improve the results have not been successful in the past 14 years. I proved that the upper bound of the TS algorithm is indeed the lower bound. In addition, I characterized all tight instances of the TS algorithm.

WORKING PAPERS

1. Xiaotie Deng, **Hanyu Li**, Ningyuan Li, "Characterizing Parametric and Convergence Stability in Nonconvex and Nonsmooth Optimizations: A Geometric Approach", submitted.

PUBLICATIONS

1. Zhaohua Chen, Xiaotie Deng, Wenhan Huang, **Hanyu Li** and Yuhao Li, "On Tightness of the Tsaknakis-Spirakis Algorithm for Approximate Nash Equilibrium", *The 14th International Symposium on Algorithmic Game Theory (SAGT 2021)*, September 2021.

COMMUNITY SERVICE

- PC chair for Undergraduate Research Forum on International Joint Conference on Theoretical Computer Science – Frontier of Algorithmic Wisdom (IJTCS-FAW 2022)   2022.8
- Volunteer for the 2nd International Joint Conference on Theoretical Computer Science   2021.8
- Volunteer for the 16th Conference on Web and Internet Economics   2020.12
- Volunteer for the 1st International Joint Conference on Theoretical Computer Science   2020.8
- Reviewer for 42th IEEE International Conference on Distributed Computing Systems (ICDCS2022)
- Reviewer for Algorithmica

TEACHING

- **Teaching Assistant** at Peking University   Fall 2022
  Probability and Statistics (A)

- **Teaching Assistant** at Peking University   Fall 2021
  Introduction to Computer Systems (Honor Track)

- **Teaching Assistant** at Peking University Fall 2020
  Introduction to Computer Systems

Scholarships and Awards

- POSCO Asia Fellowship 2021
- Merit Student 2021
- Shenzhen Stock Exchange Scholarship 2020
- Merit Student 2020
- Award for Academic Excellents 2019

Programming Skills

- **Proficient in** C/C++, Python 3
- **Familiar with** JavaScript, SQL, x86 Assembly, R