

EDUCATION

Princeton University, Princeton, NJ

08/2022-Current

- Ph.D. student in Theoretical Computer Science
- Advised by Mark Braverman and Matt Weinberg
- Selected Courses taken: Advanced Algorithm Design, Algorithmic Mechanism Design, Theoretical Machine Learning, Advanced Computational Complexity
- Research Interests: Algorithmic game theory, Online Learning

Harvey Mudd College, Claremont, CA

08/2017-05/2022

- GPA: 3.97
- Bachelor of Science in Joint Computer Science and Mathematics
- Graduated with High Distinction and Departmental Honors in Mathematics

RECENT RESEARCH

Market with No-Regret Learners

- Work in progress. We developed online learning algorithm to achieve good regret guarantee under budget constraints against a new benchmark. The algorithm can be applied in the autobidding setting.

Collective decision with Fairness and Efficiency Guarantees

- Work in progress. We developed a new solution concept for the matching market where both sides have cardinal utilities and showed its existence. The solution concept is market-based and the prices we charge resembles VCG prices.

Complexity of Approximating Market Equilibrium

- We analyzed the computational hardness of approximating the Hylland Zeckhauser Scheme and showed that a constant approximation is PPAD-hard if the PCP for PPAD conjecture is true.

OTHER RESEARCH

Incentives in Blockchain Protocols

- “Profitable Manipulations of Cryptographic Self-Selection are Statistically Detectable” *Advances in Financial Technologies* 2024

Combinatorial Questions

- “Distinct Distances in \mathbb{R}^3 between Quadratic and Orthogonal Curves” *European Journal of Combinatorics* 2024

Computational Biology

- “Maximum Parsimony Reconciliation in the DTLOR model” in *BMC Bioinformatics* 2021

WORK EXPERIENCE

MININGLAMP Technology Software Engineer Intern, Beijing, China

09/2020-12/2020

Facebook Software Engineer Intern, Menlo Park, CA

06/2019-08/2019