QISHEN HAN

Ph.D. student in Computer Science

@ hnickc2017@gmail.com   📞 +1 (518)961-6538   📍 Troy, NY, United States
🔗 **Personal Website**   ⚇ **Google Scholar**   in **Linkedin**

RESEARCH INTEREST

Computational Social Choice, Information Elicitation and Aggregation, Fair Division, Algorithmic Game Theory, Intersection on Large Language Model and Social Choice.

EDUCATION

Ph.D. in Computer Science, Rensselaer Polytechnic Institute (RPI)   Troy, NY USA
Advisor: Lirong Xia   Sept. 2021-Present (May. 2026 Expected)
- Theoretically demonstrating the capability of strategic voting to reveal the truth under multiple voting scenarios.
- Proposing a generalized fairness notion for resource allocation and developing new fair allocation algorithms.

B.S. in Intelligence Science and Technology, Peking University   Beijing, China
A member of Turing Class   GPA: 3.71/4.00   Sept. 2017 – Jun. 2021
- Made up of 60 specially selected students, and supervised by Prof. John Hopcroft
- Aim to cultivate a new generation of computer scientists who possess theoretical knowledge and emphasize its application in different fields.

B.Ec. in Economics (dual degree), Peking University   Beijing, China
GPA: 3.70/4.00   Sept. 2018 – Jun. 2021

PUBLICATIONS

Average Envy-freeness for Indivisible Items [PDF]   **EAAMO-23**
Qishen Han, Biaoshuai Tao, and Lirong Xia

Accelerating Voting by Quantum Computation [PDF]   **UAI-23**
Ao Liu, Qishen Han, Lirong Xia, and Nengkun Yu

The Wisdom of Strategic Voting [Link][PDF]   **EC-23**
Qishen Han, Grant Schoenebeck, Biaoshuai Tao, and Lirong Xia

Anti-Malware Sandbox Games [PDF]   **AAMAS-22**
Sujoy Sikdar, Sikai Ruan, Qishen Han, Paween Pitimanaaree, Jeremy Blackthorne, Bulent Yener, and Lirong Xia

NON-ARCHIVAL PAPERS

The art of Two Round Voting   **Under Review**
Qishen Han, Grant Schoenebeck, Biaoshuai Tao, and Lirong Xia

Learning to Explain Voting Rules [PDF]   **Extended abstract in AAMAS-23**
Inwon Kang, Qishen Han, and Lirong Xia

Computational Complexity of Verifying the Group No-show Paradox [PDF]   **Extended abstract in AAMAS-23**
Farhad Mohsin, Qishen Han, Sikai Ruan, Pin-Yu Chen, Francesca Rossi, and Lirong Xia

Truthful Information Elicitation from Hybrid Crowds [PDF]   **Under Review**
Qishen Han, Sikai Ruan, Yuqing Kong, Ao Liu, Farhad Mohsin, and Lirong Xia

EXPERIENCE

Internship at Digital Insight Institute, Ipsos, Shanghai, China   Summer 2023
- Developed an LLM-based program that summarizes a symposium to a Q&A form with a correctness rate of 80%.
- Created LLM-based virtual consumers that inherit tones, preferences, and expertise from real consumer data.

Teaching Assistant of *Introduction to Computer Systems*		Fall 2019, Peking University
Instructor: Yasha Wang		
Benjing (Turing Class) Scholarship	Top 8 in Turing class (of 60)	Dec. 2019, Peking University
Jingjishijie Scholarship	Top 4 in class (of 50)	Dec. 2018, Peking University

SKILLS

Theoretical Skills

Complexity Analysis, Equilibrium analysis, Mechanism Design and analysis, Randomized/Approximation algorithm.

Programming Skills

Languages: Python, C/C++, Matlab
Python Packages: Numpy, Pandas, Scipy, Scikit-learn, Langchain