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

EDUCATION

Ph.D. in Computer Science

Rensselaer Polytechnic Institute

Sept 2021 – Present Troy, NY, USA

Advisor: Lirong Xia

- 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 corresponding fair allocation algorithms.

B.S. in Intelligence Science and Technology

Peking University

Sept 2017 – Jun 2021 Beijing, China

- GPA: 3.71/4.00
- A member of Turing Class (Supervised by Prof. John Hopcroft; class made up of 60 specially selected students): The program aimed to cultivate a new generation of computer scientists who possess theoretical knowledge and emphasize its application in different fields.

Double B.Ec. in Economics

Peking University

Sept 2018 - Jun 2021 Beijing, China

- GPT 3.70/4.00

PUBLICATIONS

Average Envy-freeness for Indivisible Items [Arxiv] **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][Arxiv] **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

ONGOING & NON-ARCHIVAL PAPERS

The art of Two Round Voting

Qishen Han, Grant Schoenebeck, Biaoshuai Tao, and Lirong Xia

Learning to Explain Voting Rules

Inwon Kang, **Qishen Han**, and Lirong Xia
Accepted as an extended abstract in AAMAS-23 [PDF]

Computational Complexity of Verifying the Group No-show Paradox

Farhad Mohsin, **Qishen Han**, Sikai Ruan, Pin-Yu Chen, Francesca Rossi, and Lirong Xia
Accepted as an extended abstract in AAMAS-23 [PDF]

Truthful Information Elicitation from Hybrid Crowds [PDF]

Qishen Han, Sikai Ruan, Yuqing Kong, Ao Liu, Farhad Mohsin, and Lirong Xia

RESEARCH INTEREST

- Computational Social Choice
- Multi-agent Systems
- Information Elicitation and Aggregation
- Algorithmic Game Theory
- Large Language Model × EconCS

SKILLS

Theoretical Skills

- Complexity Analysis
- Equilibrium analysis
- Mechanism Design & Analysis
- Randomized/Approximation algorithm

Programming Skills

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

INDUSTRY EXPERIENCE

Ipsos, Digital Insight Institute

Internship

Jul-Aug 2023 Shanghai, China

- 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.

AWARDS & TEACHING

Teaching Assistant of *Introduction to Computer Systems (ICS)*

Fall 2019, Peking University
Instructor: Yasha Wang

Jingjishijie Scholarship

Dec 2018, Peking University
Top 4 in class

Benjing (Turing Class) Scholarship

Dec 2019, Peking University
Top 8 in Turing Class