

QISHEN HAN

Ph.D. student in Computer Science

@ hnckc2017@gmail.com +1 (518)961-6538 Edison, NJ, United States
Personal Website Google Scholar in LinkedIn

RESEARCH INTEREST

Intersection between theoretical computer science and economics. Computational Social Choice, Multi-Agent System, Information Elicitation and Aggregation, Fair Division, Algorithmic Game Theory, Intersection on Large Language Model and Social Choice.

EDUCATION

Ph.D. in Computer Science, Rutgers University-New Brunswick Advisor: Lirong Xia GPA: 4.0/4.0	New Brunswick, NJ USA Aug. 2024-Present (May. 2026 Expected)
Ph.D. Student in Computer Science, Rensselaer Polytechnic Institute (RPI) • 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. • Win recognition letters on CS 6120: Computation Finance and CS 6971: Computing and Quantum Computing.	Sept. 2021- Aug. 2024. Troy, NY USA
B.S. in Intelligence Science and Technology, Peking University A member of Turing Class GPA: 3.71/4.00	Beijing, China 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. • Courses: Mathematical Analysis, Advanced Algebra, Discrete Mathematics, Algorithm Design and Analysis (Honor Track), Algorithmic Game Theory, Intro to Theoretical Computer Science, Information Theory, Randomized Algorithm (99/100), Machine Learning.	
B.Ec. in Economics (dual degree), Peking University GPA: 3.70/4.00	Beijing, China Sept. 2018 – Jun. 2021
• Courses: Principle of Economics (98/100, Top 10 in class of 400), Econometrics, Game Theory and Society (98/100), Financial Statement Analysis, Investment, Industrial Organization.	

PUBLICATIONS

Determining Winners in Elections with Absent Votes [PDF] Qishen Han, Amélie Marian, Lirong Xia	IJCAI-24
Computational Complexity of Verifying the Group No-show Paradox [PDF] Farhad Mohsin, Qishen Han, Sikai Ruan, Pin-Yu Chen, Francesca Rossi, and Lirong Xia	IJCAI-24
Average Envy-freeness for Indivisible Items [PDF] Qishen Han, Biaoshuai Tao, and Lirong Xia	EAAMO-23
Accelerating Voting by Quantum Computation [PDF] Ao Liu, Qishen Han, Lirong Xia, and Nengkun Yu	UAI-23
The Wisdom of Strategic Voting [Link][PDF] Qishen Han, Grant Schoenebeck, Biaoshuai Tao, and Lirong Xia	EC-23
Anti-Malware Sandbox Games [PDF] Sujoy Sikdar, Sikai Ruan, Qishen Han, Paween Pitimanaaree, Jeremy Blackthorne, Bulent Yener, and Lirong Xia	AAMAS-22

NON-ARCHIVAL PAPERS

Strong Equilibria in Bayesian Games with Bounded Group Size Qishen Han, Grant Schoenebeck, Biaoshuai Tao, and Lirong Xia	Under Review
Likelihood of the Existence of Average Justified Representation Qishen Han, Biaoshuai Tao, Lirong Xia, and Houyu Zhou	Under Review
The Art of Two Round Voting Qishen Han, Grant Schoenebeck, Biaoshuai Tao, and Lirong Xia	Under Review
Learning to Explain Voting Rules [PDF] Inwon Kang, Qishen Han, and Lirong Xia	Extended abstract in AAMAS-23
Truthful Information Elicitation from Hybrid Crowds [PDF] Qishen Han, Sikai Ruan, Yuqing Kong, Ao Liu, Farhad Mohsin, and Lirong Xia	Under Review

EXPERIENCE

Internship at Digital Insight Institute, Ipsos Group, Shanghai, China A multinational market research and consulting firm with a leading position in the Chinese market.	Summer 2023 Software Engineer Intern
Project For Little Red Book: AI-driven relevance analysis on products (craft beer) and consumption scenarios.	
Project for P&G: AI-driven consumer analysis and advertisement consulting via symposium and chat data.	
Teaching Assistant of Introduction to Computer Systems Instructor: Yasha Wang	Fall 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