

Suho Shin

Ph.D. Student at University of Maryland, College Park

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RESEARCH INTEREST

I am interested in mechanism design and market design, broadly construed. A core thread throughout my research is the development of the foundations of delegated decision-making under uncertainty, with various applications spanning from classic markets and organization, modern online platforms, to emerging ecosystem shaped by generative AI.

EDUCATION

University of Maryland, College Park

Maryland, USA

Ph.D. in Computer Science

Sep. 2022 –

- Advisor: [Prof. MohammadTaghi Hajiaghayi](#)

Korea Advanced Institute of Science and Technology

Daejeon, South Korea

M.S. in Electrical Engineering

Mar. 2016 – Jan. 2018

- Advisor: [Prof. Yung Yi](#)

Korea Advanced Institute of Science and Technology

Daejeon, South Korea

B.S. in Mathematical Sciences

Mar. 2011 – Feb. 2016

PUBLICATION

(α, β) denotes alphabetical order of authorship.

Optimal Contest for Recommender Systems

Working paper

α, β N. Golrezaei, M. Hajiaghayi, S. Shin

- Job Market Paper ([link](#))

- 2025 Market Innovation Workshop

- 2025 PSOR best video competition, finalists ([Youtube link](#))

Single-Sample Bilateral Trade with a Broker

WWW'26

α, β M. Hajiaghayi, G. Peng, S. Shin

Algorithmic Delegated Choice: An Annotated Reading List

[SIGecom Exchanges Vol 23.1, 2025](#)

α, β M. Hajiaghayi, S. Shin

Delegation with Costly Inspection

EC'25

α, β M. Hajiaghayi, P. Krysta, M. Mahdavi, S. Shin

Delegated Choice with Combinatorial Constraints

EC'25

α, β K. Banihashem, M. Hajiaghayi, P. Krysta, S. Shin

- Under review at [Operations Research](#)

Tokenized Bandit for LLM Decoding and Alignment

ICML'25

S. Shin, C. Yang, H. Xu, M. Hajiaghayi

- *EC'25 workshop on Info/Econ/LLMs*

- *EC'25 workshop on Human-AI collab*

Replication-proof Bandit Mechanism Design with Bayesian Agents

AAAI'25 (oral)

S. Shin, S. Esmaeili, M. Hajiaghayi

Robust and Performance Incentivizing Algorithms for Bandits with Strategic Agents

AAAI'25

S. Esmaeili, S. Shin, A. Slivkins

Gains-from-Trade in Bilateral Trade with a Broker

SODA'25

α, β *I. Hajiaghayi, M. Hajiaghayi, G. Peng, S. Shin*

Online Advertisements with LLMs

SIGecom Exchanges Vol 22.2, 2025

α, β *S. Feizi, M. Hajiaghayi, K. Rezaei, S. Shin*

Ad Auctions for LLMs via Retrieval Augmented Generation

NeurIPS'24

α, β *M. Hajiaghayi, S. Lahaie, K. Rezaei, S. Shin*

- *EC'24 Workshop on Frontiers of Online Advertising: Autobidding, GenAI, and Beyond*

Dueling Over Dessert, Mastering the Art of Repeated Cake Cutting

NeurIPS'24

α, β *S. Branzei, M. Hajiaghayi, R. Phillips, S. Shin, K. Wang*

- Under review at *Math of Operations Research*

Fairness and Efficiency in Online Class Matching

NeurIPS'24

α, β *M. Hajiaghayi, S. Jahan, M. Sharify, S. Shin, M. Springer*

A Regret Analysis of Repeated Delegated Choice

AAAI'24

α, β *M. Hajiaghayi, M. Mahdavi, K. Rezaei, S. Shin*

An Improved Relaxation for Oracle-Efficient Adversarial Contextual Bandits

NeurIPS'23

α, β *K. Banihashem, M. Hajiaghayi, S. Shin, M. Springer*

Bandit Social Learning under Myopic Agents

NeurIPS'23

α, β *K. Banihashem, M. Hajiaghayi, S. Shin, A. Slivkins*

- Under review at *Math of Operations Research*

- *EC'24 Workshop on Information Acquisition*

- *AMLS'24 (best poster award)*

Delegating to Multiple Agents

EC'23

α, β *M. Hajiaghayi, K. Rezaei, S. Shin*

Multi-armed Bandit Algorithm against Strategic Replication.

AISTATS'22

S. Shin, S. Lee, J. Ok

Power of Bonus in Pricing for Crowdsourcing.

SIGMETRICS'22

S. Shin, H. Choi, Y. Yi, J. Ok

TEACHING

Advanced Topics in Theory of Computing; Algorithmic Game Theory (CMSC858J) <i>Guest Lecturer (4 full lectures)</i>	Fall 2025 UMD
Introduction to Computer Systems <i>Teaching Assistant (~ 300 students)</i>	Fall 2024 UMD
Introduction to Computational Game Theory (CMSC474) <i>Head Teaching Assistant (~ 100 students)</i>	Fall 2023 UMD
Design and Analysis of Computer Algorithms (CMSC451) <i>Teaching Assistant (~ 100 students)</i>	Spring 2023 UMD
Introduction to Computational Game Theory (CMSC474) <i>Head Teaching Assistant (~ 30 students)</i>	Fall 2022 UMD
Data Structure and Algorithms for Electrical Engineering (EE205) <i>Teaching Assistant</i>	Fall 2017 KAIST
Computer Networks (EE323) <i>Teaching Assistant</i>	Spring 2017 KAIST

HONOR & AWARD

Jane Street Graduate Research Fellowship (Honorable Mention) <i>Jane Street</i>	USA Feb 2026
PSOR Best Video Competition (Finalist) <i>INFORMS Public and Societal Operations Research</i>	USA Oct 2025
Outstanding Graduate Assistant Award AY 23-24 <i>University of Maryland</i>	USA Dec 2023
Graduate School Summer Research Fellowship <i>University of Maryland (declined)</i>	USA Summer 2023
Dean's Fellowship <i>University of Maryland</i>	USA Fall 2022 – Fall 2024
The National Scholarship for Science and Engineering <i>Korea Student Aid Foundation</i>	South Korea Spring 2011 – Fall 2017
Dean's Award for Entrance <i>Korea Advanced Institute of Science and Technology</i>	South Korea Spring 2011
Gold Medal, Korean Mathematical Olympiad <i>Korean Mathematical Society</i>	South Korea Fall 2008

VISIT & INTERNSHIP

Visiting Student

Host: *Prof. Haifeng Xu*

University of Chicago

Summer 2024

Visiting Student

Host: *Prof. Piotr Krysta*

University of Liverpool

Jul. 2023

Visiting Student

Topic: *Mathematics and Computer Science of Market and Mechanism Design*

SLMath, UC Berkeley

Jun. 2023

Research Intern

Host: *Prof. Jungseul Ok*

Machine Learning Lab, Postech

Summer 2022

INDUSTRY EXPERIENCE

LINE plus Corporation, LINE Advertisement Platform

Data scientist, ML engineer

Seongnam, South Korea

Oct. 2020 – Apr. 2022

Coupang, Product, Search and Discovery Platform

Software Engineer

Jamsil, South Korea

Aug. 2018 – Sep. 2020

SERVICE

Program Committee

EC'26, AAAI'26, WINE'25, AAAI'25

Reviewer

SODA'26, ICML'25, NeurIPS'24, ICML'24, NeurIPS'23, AISTATS'22

MENTORING/ADVISING

Mentoring

Gary Peng (Undergrad at UMD)

Dec. 2023 - WIP

- Received *CRA Outstanding Undergraduate Researcher Awards* ([link](#))

Mentoring

Aya Sghiouar (High school student at Bouskoura High School)

HSRI'24

Summer 2024

TALK

Optimal Contest beyond Convexity

KAIST ISE Winter Symposium

Daejeon, Korea

Dec. 2025

Modern Topics in Algorithmic Game Theory

Eat and Learn Seminar, Center for Algorithms & Optimization, Postech

Pohang, Korea

Dec. 2025

Tokenized Bandit for LLM Decoding and Alignment

Ploutos AI

Virtual

Dec. 2025

Delegation with Costly Inspection <i>INFORMS Annual Meeting, Auctions and Market Design Award Session</i>	Georgia, USA Oct. 2025
Tokenized Bandit for LLM Decoding and Alignment <i>INFORMS Annual Meeting, Invited Session</i>	Georgia, USA Oct. 2025
Optimal Contest for Recommender Systems <i>INFORMS Annual Meeting, PSOR Business Meeting Award Session</i>	Georgia, USA Oct. 2025
Delegation with Costly Inspection <i>ACM Conference on Economics and Computation (EC)</i>	Stanford, USA Jul. 2025
Delegated Choice with Combinatorial Constraints <i>ACM Conference on Economics and Computation (EC)</i>	Stanford, USA Jul. 2025
Replication-proof Bandit Mechanism Design with Bayesian Agents <i>Association for the Advancement of Artificial Intelligence (AAAI)</i>	Philadelphia, USA Feb. 2025
Gains-from-Trade in Bilateral Trade with a Broker <i>Symposium on Discrete Algorithm (SODA)</i>	New Orleans, USA Jan. 2025
Prophet Inequality, Posted Pricing, and Delegated Choice <i>Microecon Theory Seminar, Sungkyunkwan University</i>	Seoul, South Korea Sep. 2024
Combinatorial Delegated Choice <i>East Asia Game Theory Conference</i>	Jeju, South Korea Aug. 2024
Ad Auctions for LLMs via Retrieval Augmented Generation <i>EC'24 Workshop on Frontiers of Online Advertising: Autobidding, GenAI, and Beyond</i>	New Haven, USA Jul. 2024
Delegated Choice, Prophet Inequality, and Beyond <i>Sigma Lab, UChicago</i>	Chicago, USA Jun. 2024
Topics in Economics and Computation <i>Machine Learning Lab, Postech</i>	Pohang, South Korea Jan. 2024
Delegating to Multiple Agents <i>ACM Conference on Economics and Computation (EC)</i>	London, UK Jul. 2023
Mechanism Design and Multi-armed Bandits <i>Machine Learning Lab, Postech</i>	Virtual Feb. 2022

REFERENCES

Prof. MohammadTaghi Hajiaghayi <i>Jack and Rita G. Minker Professor</i>	hajiagha@umd.edu Computer Science, University of Maryland
- Affiliated Professor	Robert H. Smith School of Business, University of Maryland
- Affiliated Professor	Applied Mathematics & Statistics, and Scientific Computation, University of Maryland
- Visiting Research Scientist	Market Algorithms, Google Research
Prof. Negin Golrezaei <i>Associate Professor</i>	golrezaei@mit.edu Operations Management, MIT Sloan

- *Theresa Seley Associate Professor*
- *Affiliated Professor*
- *Affiliated Professor*

Prof. Haifeng Xu
Assistant Professor

- *Visiting Research Scientist*

Dr. Sébastien Lahaie
Research Scientist

Management Science, MIT Sloan
Operations Research Center, MIT Sloan
Management Science, MIT IBM Watson AI Lab

haifengxu@uchicago.edu
Computer Science, University of Chicago

Market Algorithms, Google Research

slahaie@google.com
Market Algorithms, Google Research, NY