

Suhoo 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

Ph.D. in Computer Science

Maryland, USA

Sep. 2022 –

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

Korea Advanced Institute of Science and Technology

M.S. in Electrical Engineering

Daejeon, South Korea

Mar. 2016 – Jan. 2018

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

Korea Advanced Institute of Science and Technology

B.S. in Mathematical Sciences

Daejeon, South Korea

Mar. 2011 – Feb. 2016

PUBLICATION

(α, β) denotes alphabetical order of authorship.

Optimal Contest for Recommender Systems

$^{\alpha, \beta}$ N. Golrezaei, M. Hajiaghayi, S. Shin

Working paper

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

- *2025 Market Innovation Workshop*

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

Single-Sample Bilateral Trade with a Broker

$^{\alpha, \beta}$ M. Hajiaghayi, G. Peng, S. Shin

WWW'26

Algorithmic Delegated Choice: An Annotated Reading List

$^{\alpha, \beta}$ M. Hajiaghayi, S. Shin

SIGecom Exchanges Vol 23.1, 2025

Delegation with Costly Inspection

$^{\alpha, \beta}$ M. Hajiaghayi, P. Krysta, M. Mahdavi, S. Shin

EC'25

Delegated Choice with Combinatorial Constraints

$^{\alpha, \beta}$ K. Banihashem, M. Hajiaghayi, P. Krysta, S. Shin

EC'25

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

HONOR & AWARD

Jane Street Graduate Research Fellowship (Honorable Mention)	USA
<i>Jane Street</i>	Feb 2026
PSOR Best Video Competition (Finalist)	USA
<i>INFORMS Public and Societal Operations Research</i>	Oct 2025
Outstanding Graduate Assistant Award AY 23-24	USA
<i>University of Maryland</i>	Dec 2023
Graduate School Summer Research Fellowship	USA
<i>University of Maryland (declined)</i>	Summer 2023
Dean's Fellowship	USA
<i>University of Maryland</i>	Fall 2022 – Fall 2024
The National Scholarship for Science and Engineering	South Korea
<i>Korea Student Aid Foundation</i>	Spring 2011 – Fall 2017
Dean's Award for Entrance	South Korea
<i>Korea Advanced Institute of Science and Technology</i>	Spring 2011
Gold Medal, Korean Mathematical Olympiad	South Korea
<i>Korean Mathematical Society</i>	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	Georgia, USA
<i>INFORMS Annual Meeting, Auctions and Market Design Award Session</i>	Oct. 2025
Tokenized Bandit for LLM Decoding and Alignment	Georgia, USA
<i>INFORMS Annual Meeting, Invited Session</i>	Oct. 2025
Optimal Contest for Recommender Systems	Georgia, USA
<i>INFORMS Annual Meeting, PSOR Business Meeting Award Session</i>	Oct. 2025
Delegation with Costly Inspection	Stanford, USA
<i>ACM Conference on Economics and Computation (EC)</i>	Jul. 2025
Delegated Choice with Combinatorial Constraints	Stanford, USA
<i>ACM Conference on Economics and Computation (EC)</i>	Jul. 2025
Replication-proof Bandit Mechanism Design with Bayesian Agents	Philadelphia, USA
<i>Association for the Advancement of Artificial Intelligence (AAAI)</i>	Feb. 2025
Gains-from-Trade in Bilateral Trade with a Broker	New Orleans, USA
<i>Symposium on Discrete Algorithm (SODA)</i>	Jan. 2025
Prophet Inequality, Posted Pricing, and Delegated Choice	Seoul, South Korea
<i>Microecon Theory Seminar, Sungkyunkwan University</i>	Sep. 2024
Combinatorial Delegated Choice	Jeju, South Korea
<i>East Asia Game Theory Conference</i>	Aug. 2024
Ad Auctions for LLMs via Retrieval Augmented Generation	New Haven, USA
<i>EC'24 Workshop on Frontiers of Online Advertising: Autobidding, GenAI, and Beyond</i>	Jul. 2024
Delegated Choice, Prophet Inequality, and Beyond	Chicago, USA
<i>Sigma Lab, UChicago</i>	Jun. 2024
Topics in Economics and Computation	Pohang, South Korea
<i>Machine Learning Lab, Postech</i>	Jan. 2024
Delegating to Multiple Agents	London, UK
<i>ACM Conference on Economics and Computation (EC)</i>	Jul. 2023
Mechanism Design and Multi-armed Bandits	Virtual
<i>Machine Learning Lab, Postech</i>	Feb. 2022

REFERENCES

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

- Theresa Seley Associate Professor

- Affiliated Professor

- Affiliated Professor

Management Science, MIT Sloan

Operations Research Center, MIT Sloan

Management Science, MIT IBM Watson AI Lab

Prof. Haifeng Xu

Assistant Professor

- Visiting Research Scientist

haifengxu@uchicago.edu

Computer Science, University of Chicago

Market Algorithms, Google Research

Dr. Sébastien Lahaie

Research Scientist

slahaie@google.com

Market Algorithms, Google Research, NY