

Suhoo Shin

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

📞 (+1)240-268-4984 | 📩 suhoshin@umd.edu | 🌐 | 🏠

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

JOURNAL PUBLICATION

(α, β) denotes alphabetical order of authorship.

Delegated Choice with Combinatorial Constraints

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

Under review at [Operations Research](#)

Dueling Over Dessert, Mastering the Art of Repeated Cake Cutting

$^{\alpha, \beta}$ S. Branzei, M. Hajiaghayi, R. Phillips, S. Shin, K. Wang

Under review at [Math of OR](#)

Bandit Social Learning under Myopic Agents

$^{\alpha, \beta}$ K. Banihashem, M. Hajiaghayi, S. Shin, A. Slivkins

Under review at [Math of OR](#)

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](#))

Algorithmic Delegated Choice: An Annotated Reading List

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

SIGecom Exchanges Vol 23.1, 2025

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*)

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

Guest Lecturer (4 full lectures)

UMD

Introduction to Computer Systems

Fall 2024

Teaching Assistant (~ 300 students)

UMD

Introduction to Computational Game Theory (CMSC474)

Fall 2023

Head Teaching Assistant (~ 100 students)

UMD

Design and Analysis of Computer Algorithms (CMSC451)

Spring 2023

Teaching Assistant (~ 100 students)

UMD

Introduction to Computational Game Theory (CMSC474)

Fall 2022

Head Teaching Assistant (~ 30 students)

UMD

Data Structure and Algorithms for Electrical Engineering (EE205)

Fall 2017

Teaching Assistant

KAIST

Computer Networks (EE323)

Spring 2017

Teaching Assistant

KAIST

HONOR & AWARD

PSOR Best Video Competition, finalist

USA

INFORMS Public and Societal Operations Research

Oct 2025

Outstanding Graduate Assistant Award AY 23-24

USA

University of Maryland

Dec 2023

Graduate School Summer Research Fellowship

USA

University of Maryland (declined)

Summer 2023

Dean's Fellowship

USA

University of Maryland

Fall 2022 – Fall 2024

The National Scholarship for Science and Engineering

South Korea

Korea Student Aid Foundation

Spring 2011 – Fall 2017

Dean's Award for Entrance

South Korea

Korea Advanced Institute of Science and Technology

Spring 2011

Gold Medal, Korean Mathematical Olympiad

South Korea

Korean Mathematical Society

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

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

Delegation with Costly Inspection

INFORMS Annual Meeting, Auctions and Market Design Award Session

Georgia, USA
Oct. 2025

Tokenized Bandit for LLM Decoding and Alignment

INFORMS Annual Meeting, Invited Session

Georgia, USA
Oct. 2025

Optimal Contest for Recommender Systems

INFORMS Annual Meeting, PSOR Business Meeting Award Session

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> - <i>Affiliated Professor</i>	hajiagha@umd.edu Computer Science, University of Maryland <i>Robert H. Smith School of Business, University of Maryland</i>
Prof. Negin Golrezaei <i>Associate Professor</i> - <i>Theresa Seley Associate Professor</i> - <i>Affiliated Professor</i> - <i>Affiliated Professor</i>	golrezae@mit.edu Operations Management, MIT Sloan <i>Management Science, MIT Sloan</i> <i>Operations Research Center, MIT Sloan</i> <i>Management Science, MIT IBM Watson AI Lab</i>
Prof. Haifeng Xu <i>Assistant Professor</i>	haifeng.hxu@gmail.com Computer Science, University of Chicago
Dr. Sébastien Lahaie <i>Research Scientist</i>	slahaie@google.com Market Algorithms, Google Research, NY