

# Suho Shin

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

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## RESEARCH INTEREST

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I'm interested in the intersection of computer science and economics, including algorithmic mechanism design/game theory, social learning and social choice, and recently its interaction with generative AI. I also work on classic topics in theoretical computer science, in particular, online algorithm/learning, approximation algorithm, combinatorial optimization, and computational complexity.

## EDUCATION

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**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

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*( $\alpha, \beta$ ) denotes alphabetical order of authorship, which is standard in EconCS and TCS.*

**Replication-proof Bandit Mechanism Design**

[Preprint](#)

$\alpha, \beta$  S. Esmaeili, M. Hajiaghayi, S. Shin

**Robust and Performance Incentivizing Algorithms for Bandits with Strategic Agents**

[Preprint](#)

$\alpha, \beta$  S. Esmaeili, S. Shin, A. Slivkins

**Online Advertisements with LLMs: Opportunities and Challenges**

[Preprint](#)

$\alpha, \beta$  S. Feizi, M. Hajiaghayi, K. Rezaei, S. Shin

**Gains-from-Trade in Bilateral Trade with a Broker**

SODA'25

$\alpha, \beta$  I. Hajiaghayi, M. Hajiaghayi, G. Peng, S. Shin

**Ad Auctions for LLMs via Retrieval Augmented Generation**

NeurIPS'24

$\alpha, \beta$  M. Hajiaghayi, S. Lahaie, K. Rezaei, S. Shin

EC'24 Workshop

**Dueling Over Dessert, Mastering the Art of Repeated Cake Cutting**

NeurIPS'24

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

**Improved Online Class Fair Matching**

NeurIPS'24

$\alpha, \beta$  M. Hajiaghayi, S. Jahan, M. Sharify, S. Shin, M. Springer

## A Regret Analysis of Repeated Delegated Choice

AAAI'24

$\alpha, \beta$  M. Hajiaghayi, M. Mahdavi, K. Rezaei, S. Shin

## An Improved Relaxation for Oracle-Efficient Adversarial Contextual Bandits

NeurIPS'23

$\alpha, \beta$  K. Banihashem, M. Hajiaghayi, S. Shin, M. Springer

## Bandit Social Learning under Myopic Agents

NeurIPS'23,

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

EC'24 Workshop, AMLS'24 (*best poster award*)

## Delegating to Multiple Agents

EC'23

$\alpha, \beta$  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

## HONOR & AWARD

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### Outstanding Graduate Assistant Award AY 23-24

USA

University of Maryland

Dec 2023

### Travel Award

USA

ACM SIGecom, EC 2023

Jul 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

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### Research Intern

University of Chicago

Host: *Prof. Haifeng Xu*

Summer 2024

### Visiting Student

University of Liverpool

Host: *Prof. Piotr Krysta*

Jul. 2023

### Visiting Student

SLMath, UC Berkeley

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

Jun. 2023

### Research Intern

Machine Learning Lab, Postech

Host: *Prof. Jungseul Ok*

Summer 2022

## SERVICE

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### Program Committee

*AAAI'25*

### Reviewer

*NeurIPS'24, ICML '24, NeurIPS'23, AISTATS'22*

### Volunteer

*EC'23*

## MENTORING/ADVISING

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### Mentoring

*Chirag Jain (Undergrad at UMD)*

Aug. 2024 - WIP

### Mentoring

*Gary Peng (Undergrad at UMD)*

Dec. 2023 - WIP

### Mentoring

*Aya Sghiouar (High school student at Bouskoura High School) ([HSRI'24](#))*

Summer 2024

## TALK

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### Prophet Inequality, Posted Pricing, and Delegated Choice

*Microecon Theory Seminar, Sungkyunkwan University*

Seoul, South Korea

Sep. 2024

### Combinatorial Delegated Choice

*East Asia Game Theory Conference*

Jeju, South Korea

Aug. 2024

### Ad Auctions for LLMs via Retrieval Augmented Generation

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

New Haven, USA

Jul. 2024

### Delegated Choice, Prophet Inequality, and Beyond

*Sigma Lab, UChicago*

Chicago, USA

Jun. 2024

### Regret Analysis of Repeated Delegated Choice

*Association for the Advancement of Artificial Intelligence (AAAI)*

Vancouver, Canada

Feb. 2024

### Topics in Economics and Computation

*Machine Learning Lab, Postech*

Pohang, South Korea

Jan. 2024

### Delegating to Multiple Agents

*ACM Conference on Economics and Computation (EC)*

London, UK

Jul. 2023

### Power of Bonus in Pricing for Crowdsourcing

*Proceedings of the ACM on Measurement and Analysis of Computing Systems (POMACS)*

Virtual

Jun. 2022

### Multi-armed Bandit Algorithm against Strategic Replication

*International Conference on Artificial Intelligence and Statistics (AISTATS)*

Virtual

Mar. 2022

### Mechanism Design and Multi-armed Bandit

*Machine Learning Lab, Postech*

Virtual

Feb. 2022

## TEACHING

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<b>Introduction to Computer Systems</b> <i>Teaching Assistant</i>	Fall 2024 UMD
<b>Introduction to Computational Game Theory (CMSC474)</b> <i>Teaching Assistant</i>	Fall 2023 UMD
<b>Design and Analysis of Computer Algorithms (CMSC451)</b> <i>Teaching Assistant</i>	Spring 2023 UMD
<b>Introduction to Computational Game Theory (CMSC474)</b> <i>Teaching Assistant</i>	Fall 2022 UMD
<b>Data Structure and Algorithms for Electrical Engineering (EE205)</b> <i>Teaching Assistant</i>	Fall 2017 KAIST
<b>Computer Networks (EE323)</b> <i>Teaching Assistant</i>	Spring 2017 KAIST

## INDUSTRY

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<b>LINE plus Corporation, LINE Advertisement Platform</b> <i>Data Scientist</i>	Seongnam, South Korea Oct. 2020 – Apr. 2022
<b>Coupang, Product, Search and Discovery Platform</b> <i>Software Engineer</i>	Jamsil, South Korea Aug. 2018 – Sep. 2020