

# Suho Shin

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

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## RESEARCH INTEREST

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I'm broadly interested in the intersection of theoretical computer science and theoretical microeconomics. This includes algorithmic mechanism design/game theory, social learning and social choice. I'm also interested in online algorithm, graph algorithm, combinatorial optimization, and computational complexity. I've recently been focusing on broadening the theoretical foundations of delegation mechanism, especially from combinatorial and learning perspective.

## 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

## PUBLICATIONS

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$(\alpha, \beta)$  denotes alphabetical order of authorship, which is common in theoretical computer science/econ/math community.

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

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

[Manuscript](#)

**Combinatorial Delegated Choice**

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

Under review

**Almost Tight Guarantees for Online Nash Social Welfare Maximization**

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

Under review

**A Regret Analysis of Repeated Delegated Choice**

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

[Under review](#)

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

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

[NeurIPS'23](#)

**Bandit Social Learning under Myopic Agents**

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

[NeurIPS'23](#)

**Delegating to Multiple Agents**

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

[EC'23](#)

## Multi-armed Bandit Algorithm against Strategic Replication.

*S. Shin, S. Lee, J. Ok*

[AISTATS'22](#)

## Power of Bonus in Pricing for Crowdsourcing.

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

[SIGMETRICS'22](#)

## WORKING PAPERS

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$(\alpha, \beta)$  denotes alphabetical order of authorship, which is common in theoretical computer science/econ/math community.

### Efficient Verification in Delegated Choice

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

### Learning in Repeated Cake Cutting

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

### Deciding Whom to Delegate

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

### Price of Class Fairness in Online Matching

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

### Incentivizing Performance in Bandits with Strategic Arms

$\alpha, \beta$  *S. Esmaili, S. Shin, A. Slivkins*

### Replication-proof Bandit Mechanism Design

$\alpha, \beta$  *S. Esmaili, M. Hajiaghayi, S. Shin*

## HONORS & AWARDS

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### Graduate School Summer Research Fellowship

*University of Maryland (declined)*

USA  
Summer 2023

### Dean's Fellowship

*University of Maryland*

USA  
Fall 2022 – Fall 2024

### The National Scholarship for Science and Engineering

*Korea Student Aid Foundation*

South Korea  
Spring 2011 – Fall 2017

### Dean's Award for Entrance

*Korea Advanced Institute of Science and Technology*

South Korea  
Spring 2011

### Gold Medal, Korean Mathematical Olympiad

*Korean Mathematical Society*

South Korea  
Fall 2008

## VISITS & INTERNSHIPS

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### 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

## ACADEMIC SERVICE

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### Reviewer

*NeurIPS'23, AISTATS'22*

## TALKS

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### 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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### Introduction to Computational Game Theory (CMSC474)

*Teaching Assistant*

Fall 2023

UMD

### Design and Analysis of Computer Algorithms (CMSC451)

*Teaching Assistant*

Spring 2023

UMD

### Introduction to Computational Game Theory (CMSC474)

*Teaching Assistant*

Fall 2022

UMD

### Data Structure and Algorithms for Electrical Engineering (EE205)

*Teaching Assistant*

Fall 2017

KAIST

### Computer Networks (EE323)

*Teaching Assistant*

Spring 2017

KAIST

## INDUSTRY

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### [LINE plus Corporation](#), LINE Advertisement Platform

*Data Scientist*

Seongnam, South Korea

Oct. 2020 – Apr. 2022

### [Coupang](#), Product, Search and Discovery Platform

*Software Engineer*

Jamsil, South Korea

Aug. 2018 – Sep. 2020