

Name: 정슬기

## CONTACT INFORMATION

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## EDUCATION

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- **Korea Advanced Institute of Science and Technology (KAIST)** Daejeon, Republic of Korea  
*Ph.D. Degree in Industrial and Systems Engineering* Sep. 2012 – Feb. 2018
  - **Advisor:** Prof. Sungsoo Park
  - **Thesis topic:** “Polyhedral Studies on Robust Mixed Integer Programming Problems”
  - **Research interests:** Robust Optimization, Combinatorial Optimization, Integer Programming, Linear Programming
- **Korea Advanced Institute of Science and Technology (KAIST)** Daejeon, Republic of Korea  
*Bachelor Degree in Industrial and Systems Engineering* Feb. 2008 – Aug. 2012

## WORK EXPERIENCE

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- **Assistant Professor** 2020.09.01 - Present  
Industrial Engineering Department, Chonnam National University
  - Adjunct Professor, Graduate School of Data Science, Chonnam National University
  - Adjunct Professor, Department of Artificial Intelligence Convergence, Chonnam National University
- **Postdoctoral Researcher** 2018.03.01 - 2020.02.29, 2020.05.01 - 2020.08.31  
Industrial Engineering Department, Seoul National University

## TEACHING EXPERIENCE

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- **Assistant Professor**  
Chonnam National University, Republic of Korea
  - Operations Research 1 [IDE3013] Fall 2020-2022
  - Operations Research 2 [IDE3017] Fall 2020, Spring 2021-2023
  - Systems Optimization [IDE6003] Spring 2021-2023
  - Matrix and Linear Algebra [IDE2015] Spring 2021
  - Introduction to Algorithms [IDE6002] Fall 2021
  - Problem Solving and Algorithm [IDE1011] Fall 2022, Spring 2023
  - Advanced Linear Programming [GR00928] Spring 2023
  - Advanced OR (for Graduate school of Industry and Technology) [IID5004] Fall 2021
  - Introduction to Decision Analysis (for Graduate school of Industry and Technology) [IID5858] Spring 2022
- **Lecturer**  
Soongsil University, Republic of Korea
  - Engineering Mathematics [2150693203] Fall 2018
- **Lecturer**  
Hankuk University of Foreign Studies, Republic of Korea
  - Management Science [D03380202] Spring 2018
- **Teaching Assistant**  
Korea Advanced Institute of Science and Technology, Republic of Korea
  - Special Topics in Industrial Engineering <Analysis Assessment> [IE801] Spring 2016
  - Linear Programming [IE531] Spring 2015
  - Operations Research [IE331] Spring 2013, Spring 2014

- **S. Joungh**\*. “A new sequential lifting of robust cover inequalities.” *Optimization Letters*, 2023: 1-17.  
<https://doi.org/10.1007/s11590-023-02027-3>
- **S. Joungh**, S. Oh and K. Lee\*. “Comparative analysis of linear programming relaxations for the robust knapsack problem.” *Annals of Operations Research*, 323(1) 2023: 65-78. <https://doi.org/10.1007/s10479-022-05161-w>
- K. Seo, **S. Joungh**, C. Lee and S. Park\*. “A closest Benders cut selection scheme for accelerating the Benders decomposition algorithm.” *INFORMS Journal on Computing*, 34(5) 2022: 2804-2827.  
<https://doi.org/10.1287/ijoc.2022.1207>
- J. Lee, **S. Joungh**\* and K. Lee\*. “A fully polynomial time approximation scheme for the probability maximizing shortest path problem.” *European Journal of Operational Research* 300(1) 2022: 35-45.  
<https://doi.org/10.1016/j.ejor.2021.10.018>
- **S. Joungh** and S. Park\*. “Robust mixed 0-1 programming and submodularity.” *INFORMS Journal on Optimization* 3(2) 2021: 183-199. <https://doi.org/10.1287/ijoo.2019.0042>
- **S. Joungh** and K. Lee\*. “Robust optimization-based heuristic algorithm for the chance-constrained knapsack problem using submodularity.” *Optimization Letters* 14(1) 2020: 101-113.  
<https://doi.org/10.1007/s11590-019-01445-6>
- **S. Joungh**, J. Lim, C. Lee\*, J. Shin, I. Jung and S. Park\*. “A linear programming based heuristic algorithm for bandwidth packing problem with scheduling.” *Journal of the Operational Research Society* 71(2) 2020: 250-263.  
<https://doi.org/10.1080/01605682.2018.1542959>
- S.J. Kwon, **S. Joungh** and K. Lee\*. “Comparative analysis of pattern-based models for the two-dimensional two-stage guillotine cutting stock problem.” *Computers & Operations Research* 109 2019: 159-169.  
<https://doi.org/10.1016/j.cor.2019.05.005>
- **S. Joungh** and S. Park\*. “Lifting and separation of robust cover inequalities.” *Networks* 72(2) 2018: 272-305.  
<https://doi.org/10.1002/net.21829>
- **S. Joungh** and S. Park\*. “Lifting of probabilistic cover inequalities.” *Operations Research Letters* 45(5) 2017: 513-518. <https://doi.org/10.1016/j.orl.2017.08.006>

## DOMESTIC JOURNAL PUBLICATIONS

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- 이현태, 윤범, 조예림, 이수현, **정슬기**\*, “정수계획법을 활용한 시차를 고려한 온라인 학회 스케줄링 방법 제안.” *경영과학* 40(1) 2023: 61-70. <https://doi.org/10.7737/KMSR.2023.40.1.061> (대한산업공학회 산업공학 위상강화 TF팀, 2021-2022)
- 전홍배, 신기태, **정슬기**\*, “정량 분석을 통해 살펴본 산업공학 전공의 현황.” *대한산업공학회지* 48(3) 2022: 265-270.  
<https://doi.org/10.7232/JKIIE.2022.48.3.265> (대한산업공학회 산업공학 위상강화 TF팀, 2021-2022)
- **정슬기**\*, “k-부분보형 부등식과 불확실성을 고려한 이산최적화 문제.” *한국경영과학회지* 47(2) 2022: 25-34.  
<https://doi.org/10.7737/JKORMS.2022.47.2.025>

## CONFERENCE PRESENTATIONS

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- **S. Joungh**. Branch-and-cut for the multiband robust optimization problems.” Conference of the Korean Institute of Industrial Engineers. in Jeju, Republic of Korea. May 2023.
- **S. Joungh**. “A lifting algorithm for robust cover inequalities.” Conference of Korean Operations Research and Management Science Society. in Jeju, Republic of Korea. June 2022.
- **S. Joungh**, J. Lee and K. Lee. “An improved approximation scheme for the stochastic shortest path problem.” *Conference of the Korean Institute of Industrial Engineers*. in Seoul, Republic of Korea. November 2021.
- **S. Joungh** and K. Lee. “A heuristic algorithm for the chance-constrained knapsack problem using submodularity” *EURO 2019*. in Dublin, Ireland. June 2019.
- **S. Joungh** and S. Park. “Robust MIP problems and submodular inequalities.” *Conference of the Korean Institute of Industrial Engineers*. in Gyeongju, Republic of Korea. April 2018.
- **S. Joungh** and S. Park. “Cardinality constrained robust MIP and submodular polyhedron.” *2017 INFORMS Annual Meeting*. in Houston, Texas, U.S.A. October 2017.
- **S. Joungh** and S. Park. “A lifting algorithm for probabilistic cover inequalities.” *Conference of the Korean Institute of Industrial Engineers*. in Jeju, Republic of Korea. April 2016.
- **S. Joungh** and S. Park. “Lifting and separation of robust cover inequalities.” *Conference of the Korean Institute of Industrial Engineers*. in Jeju, Republic of Korea. April 2015.

## PROJECTS

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- **한국전력기술** January 2023 - December 2023  
“불확실성 기반 해상풍력단지 정비계획 모델링 및 최적화 기술자문”
- **National Research Foundation of Korea** March 2021 - February 2024  
“Decision making under uncertainty and  $k$ -submodularity”
- **SK Telecom** July 2017 - February 2018  
with Broadband Tech. Lab, Network Technology R&D center, SK Telecom, Republic of Korea  
“Traffic optimization and scheduling algorithms for L3 level transport networks”
- **SK Telecom** October 2016 - April 2017  
with Broadband Tech. Lab, Network Technology R&D center, SK Telecom, Republic of Korea  
“Bandwidth calendaring algorithms in the design of path computing environment (PCE) for L2 level transport networks”
- **National Research Foundation of Korea** June 2016 - February 2018  
“Studies on the polyhedral structures of the solution sets of robust optimization problems”
- **SK Innovation, Ph.D. Intern** June 2014 - August 2014  
in Optimization and Analysis Lab  
“Vessel arrival scheduling considering uncertainty”

## HONORS & AWARDS

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- **교육연구 우수 교수상** December 2021  
College of Engineering, Chonnam National University
- **Best Ph.D. Thesis Award 2018** October 2018  
The Korean Operations Research and Management Science Society (KORMS)
- **Outstanding Thesis Award 2018** February 2018  
Department of Industrial and Systems Engineering,  
Korea Advanced Institute of Science and Technology (KAIST)

## ACTIVITIES

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- **대한산업공학회 산업공학 교육본부** 2023 - Current
- **대한산업공학회 산업공학 위상강화 TF팀** October 2021 - Current
- **전남대학교 데이터사이언스대학원 개원준비단 위원** October 2021 - February 2022

## PROGRAMMING SKILLS

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- **Languages:** Java, Python, Mosel
- **Softwares:** CPLEX, CLP, XPress