Myungeun Eom

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INTERESTS	Transportation, Logistics, Optimization under uncertainty, Mixed-Integer Programming

EDUCATION

Georgia Institute of Technology, Atlanta, GA, US
Ph.D. candidate in Operations Research Sep. 2021 - Present
- Advisor: Prof. Alejandro Toriello

Pohang University of Science and Technology (POSTECH), Korea
M.S. in Industrial and Management Engineering Sep. 2018 - Aug. 2020
- Thesis: Integrated Transfer Planning and Scheduling for the Material Blending Production System
- Advisor: Prof. Byung-In Kim
- Graduated *Summa Cum Laude* (Total GPA of 4.3/4.3)

B.S. in Industrial and Management Engineering Mar. 2014 - Aug. 2018
- Graduated *Summa Cum Laude* (Total GPA of 4.19/4.3)

Graz University of Technology, Austria
Exchange Student Sep. 2016 - Feb. 2017

RESEARCH EXPERIENCE

Georgia Institute of Technology Atlanta, GA, US
Research Assistant Sep. 2021 - Present
- Working on projects for dynamic arc matching problem and nationwide service network design

Pohang University of Science and Technology (POSTECH), Korea
Research Assistant Sep. 2018 - Aug. 2021
- Led projects on steel industry scheduling problem and traffic signal control problem, published and submitted papers based on work, and gave presentations at conferences
  - Steel industry scheduling: Proposed two-stage algorithm with matheuristics and Benders decomposition for integrated transfer planning and scheduling of molten iron
  - Traffic signal control: Wrote grant proposal, reviewed literature, developed heuristic algorithm and open-source software for optimizing traffic signal pattern and parameters [demo]
- Participated in projects on operating room scheduling problem and hydrogen refueling station location problem, published and submitted papers based on work
  - Operating room scheduling: Formulated mixed-integer programming model for operating room scheduling considering surgeons' preferences and cooperative surgeries
  - Hydrogen refueling station location: Designed forecasting model for estimating number of hydrogen vehicles per region for nationwide hydrogen station deployment plan

VUNO Inc., Korea
Research Intern Mar. 2017 - Aug. 2017
- Researched convolution neural network structure for bone age assessment with X-ray images
- Conducted experiments for tuning parameters and evaluating the performance

PUBLICATIONS **Journals**

[1] Myungeun Eom, Byung-In Kim. 2020. The traffic signal control problem for intersections: a review. *European Transport Research Review, 12*(50). [pdf]

[2] Hyunjoon Kim, Myungeun Eom, Byung-In Kim. 2020. Development of strategic hydrogen refueling station deployment plan for Korea. *International Journal of Hydrogen Energy, 45*(38), 19900-19911. [pdf]

[3] Jaesang Park, Byung-In Kim, <u>Myungeun Eom</u>, Byung Kwan Choi. 2021. Operating room scheduling considering surgeons' preferences and cooperative operations. *Computers and Industrial Engineering, 154*, 107306.

[4] <u>Myungeun Eom</u>, Byung-In Kim. 2022. Combinatorial Benders decomposition for melted material blending systems considering transportation and scheduling. *International Journal of Production Research (In press)*

Working papers

[1] Seungyeop Lee, <u>Myungeun Eom</u>, Byung-In Kim. Two-stage algorithm for traffic signal optimization and web service system development. *Submitted*

Conferences

[1] <u>Myungeun Eom</u>, Byung-In Kim, A Benders decomposition algorithm for the scheduling problem of a material blending production system, 2020 Fall Conference of KIIE, Seoul, South Korea, November 13, 2020.

[2] <u>Myungeun Eom</u>, Byung-In Kim, Adaptive traffic signal control for intersection networks, 2019 INFORMS Annual Meeting, Seattle, Washington, USA, October 20-23, 2019.

TEACHING

Information System Technology (POSTECH)

Teaching Assistant   Sep. 2018 - Dec. 2018

- Covered object oriented programming using C++, data structures, and algorithms for optimization problems including traveling salesman problem, bin packing, shortest path, knapsack, and others
- Made lab assignments once a week, answered questions in person and online, and marked assignments

EXTRACURRICULAR ACTIVITIES

Student Mentor Program (POSTECH)

Student Mentor   Mar. 2016 - Dec. 2017

- Information System Technology course (Sep. 2017 - Dec. 2017)
- Programming and Problem Solving course (Mar. 2016 - Jun. 2016)
- Gave lectures and answered questions regarding programming language and algorithms

Future Industrial Engineering Leaders and Dreamers

Regular Member   Apr. 2014 - Aug. 2014

- Organized activities of industrial engineering academic exchange camp
- Made promotional materials introducing industrial engineering

HONORS AND SCHOLARSHIPS

Kwanjeong Study Abroad Scholarship, Kwanjeong Educational Foundation (2022 - Present)
Stewart Topper Fellowship award, Georgia Institute of Technology (2021)
Jung Min Geun Laboratory Scholarship, POSTECH, 2018
National Scholarship for Science and Engineering, Korea Student Aid Foundation, 2014-2018
Dean's List, Department of Industrial and Management Engineering, POSTECH, 2014-2018
Tutoring Program Scholarship, POSTECH, 2017
Student Mentor Program Scholarship, POSTECH, 2016
A Short Period of Study Abroad Scholarship, POSTECH, 2016

TECHNICAL SKILLS

Programming language: (Advanced) C++, C, Python   (Novice) Julia, Java

Simulation software: Anylogic, SUMO, Arena