

# JEONGWON PARK

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## EDUCATION

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**Arizona State University, USA**

Aug 2023 - present

*Ph.D., Industrial engineering*

- Advisor: Feng Ju

**Pusan National University, Republic of Korea**

Mar 2022 - Aug 2023

*M.S., Industrial engineering*

- Major in Industrial Data Science and Engineering

- Advisor: Soondo Hong

- Thesis title: "Order Batching and Sequencing for Temporal Workload Balancing in a Sequential Zone Order Picking System" (Outstanding Paper/Presentation Award from Department of Industrial Engineering, Pusan National University, 2023)

**Pusan National University, Republic of Korea**

Mar 2015 - Aug 2022

*B.S. (Magna Cum Laude), Industrial engineering*

- Second Major: Big Data Interdepartmental Major

## RESEARCH INTEREST

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- **Methodologies**

Machine learning, Meta heuristics, Mixed integer programming, Simulation

- **Applications**

Manufacturing and production systems, Material handling, Logistics and Supply chain, Scheduling

## PUBLICATIONS

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### Refereed Journal Articles

1. **J. Park**, S. Hong, "Optimizing blocking and starving delays in sequential zone order picking systems through time-decomposed workload balancing", *Computers & Operations Research*, 107060 (2025)
2. **J. Park**, C. Park, S. Hong, "Gaussian process-based storage location assignments with risk assessments for progressive zone picking systems", *Computers & Industrial Engineering*, 185, 109700 (2023)

### Peer-reviewed conference articles and Book chapters

1. **J. Park**, Y. Su, F. Ju, "Efficient Job Shop Scheduling via Graph based Deep Reinforcement Learning with Adaptive Multi-Action Selection", *IEEE International Conference on Automation Science and Engineering (CASE)*, (2024)
2. Y. Li, **J. Park**, G. Manogharan, F. Ju and I. Kovalenko, "A Mobile Additive Manufacturing Robot Framework for Smart Manufacturing Systems", *ASME 2024 19th International Manufacturing Science and Engineering Conference*, (2024)
3. **J. Park**, P. Joatiko, C. Park, S. Hong, "Average flow time estimation and its application for storage relocation in an order picking system", *IFIP International Conference on Advances in Production Management Systems*, 663, 60-66, (2022)

4. **J. Park**, H.Y. Fibrianto, S. Hong, "Order Batching and sequencing in a sequential zone order picking system with consideration of workload balance", In K. Ellis, W. Ferrell, & J. Knapp (Eds.), *IISE Annual Conference and Expo 2022*, Institute of Industrial and Systems Engineers, (2022)

## PRESENTATIONS

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1. "Dynamic Graph-based Deep Reinforcement Learning Approach for Large-size Flexible Job Shop Scheduling" IEEE International Conference on Automation Science and Engineering (CASE), 2025, August 17-21, Los Angeles, California, USA (scheduled)
2. "Dynamic Graph-Based Reinforcement Learning for Efficient Scheduling in Large-Scale Flexible Job Shops", IISE Annual Conference and Expo, May 31-June 3, 2025, Atlanta, Georgia, USA (scheduled)
3. "Multi-Swap Simulated Annealing Algorithm for Order Batching and Sequencing Problem in a Sequential Zone Picking System", INFORMS Annual Meeting, October 15-18, 2023, Phoenix, Arizona, USA
4. "A study on the Scheduling using Simulation for the Automobile Pipe Production", Industry-led Technology Seminar and Research Exchange, Korea Energy Technology Evaluation and Planning, July 6, 2023, Busan, Korea
5. "Feature Generation for Storage Location Assignment based on Flow Time Estimation", The Joint conference of KIIE/KORMS, June 1-2, 2023, Jeju, Korea
6. "AS/RS material handling system optimization", LG CNS Entruue exchange meeting, August 19, 2022, Pusan National University, Busan, Korea
7. "Storage assignment based on Gaussian Process surrogate modeling", Data-driven optimization joint workshop, August 2-3, 2022, POSTECH, Pohang, Korea

## PATENTS

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1. I. Kovalenko, Y. Li, **J. Park**, G. Manogharan, F. Ju, 2024, "MOBILE ADDITIVE MANUFACTURING ROBOT FRAMEWORK FOR SMART MANUFACTURING SYSTEMS", US Patent Application 63/738,017, filed December 23 2024, Patent Pending
2. S. Hong, **J. Park**, 2023, "Apparatus and method for determining the optimal loading position of ordered products", Korean Patent Application 10-2023-0030777, filed March 8 2023, Patent Pending
3. S. Hong, **J. Park**, J. Jeong, C. Choi, 2022, "Apparatus for foresight analysis of passenger congestion in the platform for setting the optimal operating cycle of express trains", Korean Patent Application 10-2022-0015214, filed February 7 2022, Patent Pending
4. S. Hong, **J. Park**, J. Jeong, J. Lee, M. Lim, Y. Choi, 2021, "Apparatus for foresight analysis of passenger usage for selecting the optimal stop station for express trains", Korean Patent Application 10-2021-0020132, filed February 15 2021, Patent Pending

## AWARD

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| • Graduate research travel grant, Arizona State University | 2025, 2024 |
| • Graduate college travel award, Arizona State University  | 2025, 2024 |
| • GPSA travel award, Arizona State University              | 2024       |
| • SCAI Conference Award, Arizona State University          | 2024       |
| • Fulton Fellowship Award, Arizona State University        | 2023       |

- PNU-Fellowship Award, Pusan National University 2022
- Travel Grant for IISE conference presentation, Pusan National University 2022
- Third Prize, Capstone design competition, Pusan National University 2021
- Third Prize, Student project competition, The Korean Society of SCM 2021
- First Prize, Capstone design competition, Pusan National University 2020

## SCHOLARSHIP & FUNDING

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- Graduate Research Associate, Arizona State University 2024
- Graduate student Tutoring Scholarship, Pusan National University 2022
- Research Assistant Scholarship, Pusan National University 2022
- Brain Korea Scholarship, Pusan National University 2022
- Graduate student Scholarship, Pusan National University 2022
- SW student scholarship, Software education center, Pusan National University 2021
- Undergraduate student Scholarship, Pusan National University 2021, 2020, 2018, 2016
- National Science and Engineering Undergraduate Scholarship, Korea Student Aid Foundation 2015

## SERVICE

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Jeongwon Park was a reviewer of IEEE Transactions on Automation Science and Engineering, IEEE Transactions on Semiconductor Manufacturing, IEEE International Conference on Automation Science and Engineering

## TECHNICAL SKILLS

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**Programming:** Python, R-studio, Julia  
**Software & Tools:** Plant Simulation, CPLEX, LaTeX

## PROJECT

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1. **Advancement of Resource Circulation (Remanufacturing) industry**  
**(Funded by Korea Energy Technology Evaluation and Planning, Sep. 2022 - Dec. 2022)**
  - Scheduling automotive parts manufacturing processes for sustainability and productivity
  - My role: mathematical modeling, data curation, experimental design, simulation validation
2. **Human action classification with Deep Learning approach**  
**(Industry-Academia Cooperation Project, Aug. 2020 - Dec. 2020)**
  - To develop python-based deep learning framework for classifying human action from video data
  - My role: team leader, presenter, writing documents, model training and evaluation