

# CURRICULUM VITAE

August 2025

## KIM, Hyeon-II (김현일), Ph.D. Candidate

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## Personal Information

**Date of Birth:** March 25, 1995  
**Place of Birth:** Busan, REPUBLIC of KOREA  
**Nationality:** REPUBLIC of KOREA (ROK)  
**Marital Status:** Married  
**Languages:** Korean and English

## Educational Background

2014.03 – 2020.02 **B.S. in Industrial and Management Engineering, Kyungsung University**, Busan, Republic of Korea (Advisor: Prof. Chang-Seong Ko)  
GPA: 4.44/4.5 (Summa Cum Laude)  
2020.03 – 2022.02 **M.S. in Industrial Engineering, Hanyang University**, Seoul, Republic of Korea (Advisor: Prof. Dong-Ho Lee)  
GPA: 4.44/4.5  
2022.03 – 2026.02 **Ph.D. in Industrial Engineering, Hanyang University**, Seoul, Republic of Korea (Advisor: Prof. Dong-Ho Lee)  
GPA: 4.0/4.5

## Work Experiences

2020.03 – 2021.08 **Scholarship Assistant**, Department of Industrial Engineering, Hanyang University, Seoul, Republic of Korea  
2023.03 – 2023.08 **Scholarship Assistant**, Department of Industrial Engineering, Hanyang University, Seoul, Republic of Korea  
2023.09 – 2024.08 **Teaching Instructor**, Department of Industrial Engineering, Hanyang University, Seoul, Republic of Korea  
**Undergraduate**  
- INE2009 Linear Programming (2023F)  
- INE3081 Operations Management (2024S)

## Graduate

- INE9065 Production Planning and Control (2024S)

## Scientific and Professional Associations

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- 2016.03 – 2017.12 **Member**, Future Industrial Engineering Leaders and Dreamers (FIELD),  
Korean Institute of Industrial Engineers (대한산업공학회)
- 2016.03 – 2016.12 Division of competition (학술교류부서)
  - 2017.03 – 2017.12 Division of competition (학술교류부서)

## Research Interests

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### Design and Operation of Manufacturing and Material Handling/Storage Systems

Production planning and scheduling, Inventory management, Process planning, etc.

### Environmentally Conscious Design & Manufacturing (ECD&M)

Disassembly process planning and scheduling, Planning and scheduling in remanufacturing systems, Design for environment, etc.

### Forward and Reverse Logistics

Supply chain management, Network design (Facility location), Vehicle routing and scheduling, etc.

### Industrial Applications

Reconfigurable manufacturing systems, Flexible manufacturing systems, Semiconductor manufacturing systems, Automatic guided vehicle Systems, etc.

### Applications of Optimization Methodologies

Mathematical Programming (LP, IP, NLP), Interpretable Artificial Intelligence, Reinforcement Learning, Meta-Heuristics, etc.

### Applications of Operations Research

## Students Directed

### PHILOSOPHY OF DOCTORS – Industrial Engineering ( )

### MASTERS – Industrial Engineering (12 co-worked)

#### 2027

- Min-Seo Lee (이민서, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: TBD)  
**Hyun-A Shim (심현아, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: TBD)  
**Dong-Jun Kim (김동준, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: TBD)

#### 2026

- Jun-Yeong Lee (이준영, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: TBD)  
**Hyeon-Ji Moon (문현지, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: TBD)

#### 2025

- Chenghan Bai (백정한, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: A

Genetic Programming based Scheduling Approach for Remanufacturing Systems with Flow-shop-type Disassembly, Reprocessing and Reassembly Lines)

**Keon-Min Lee (이건민, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: Disassembly Leveling and Lot-sizing for End-of-life Products with Uncertain Component Yields)

## 2024

**Ae-Jin Youn (윤애진, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: System-level Configuration Optimization Algorithms for Reconfigurable Single Part Flow Lines with Controllable Processing Times)

## 2023

**Yeo-Reum Kim (김여름, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: A Genetic Programming based Deep Reinforcement Learning Approach for Dynamic Hybrid Flow Shop Scheduling with Reworks under General Queue Time Limits)

**Hyun-Bum Jung (정현범, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: Team Orienteering with Possible Multiple Visits: A Mathematical Model and Solution Algorithms)

**Xuebin Li (이학빈, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: Capacity Scalability Planning Algorithms for Job-shop-type Reconfigurable Manufacturing Systems with Dynamic Demands)

## 2021

**Yun-Hyok Choi (최윤혁, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: Disassembly Leveling and Lot-sizing for Multiple Product Types with Uncertain Component Demands)

## 2019

**Yooney Cho (조윤희, co-worked at Hanyang University)** MS in Industrial Engineering (Thesis: Mathematical Model and Solution Approaches for Multi-stage Hybrid Flow Shop Scheduling with Reworks under General Queue Time Limits)

## RESEARCH WORKS

### Dissertations

#### M.S. Dissertation

**Scheduling Algorithms for Multi-Stage Flow Shops with Reworks under Overlapped Queue Time Limits**, Hanyang University, 2022. (Advisor: Prof. Dong-Ho Lee)

#### Ph.D. Dissertation

**Static and Dynamic Scheduling for Hybrid Flow Shops with Reworks under Overlapped Queue Time Limits**, Hanyang University, 2026. (Advisor: Prof. Dong-Ho Lee)

### Projects

#### In Progress

- **An Education and Research Team for Sharing and Cooperation based Smart Systems**, 2020.09 - 2023.08, Ministry of Education. (교육부 4 단계 두뇌한국 21 (BK FOUR) 사업 교육 연구팀 - 참여)

## Finished

- **Hybrid Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits: Mathematical Models and Predictive/Reactive Algorithms**, 2022.06 - 2025.02, National Research Foundation of Korea (NRF). (한국연구재단 이공학 개인기초연구지원 사업 - 실무책임)
- **Development of an AI-based Production Planning Technology for Reconfigurable Manufacturing Systems**, 2022.04 - 2024.12, Ministry of Science and ICT. (과학기술정보 통신부, 정보통신·방송 기술개발사업: 스마트공장혁신기술개발 - 세부과제 실무책임)
- **Consulting Mathematical Optimization Algorithms**, 2023.04 - 2024.03, LG-CNS. (산업체 과제 - 실무책임)
- **Collaboration-Based Network Design for Flexible Delivery Service**, 2021.06 - 2024.02, National Research Foundation of Korea (NRF). (한국연구재단 이공학 개인기초연구지원 사업 - 실무책임)
- **Priority Scheduling for Flexible Machining Systems with Multiple Setup Stations and Multi-Fixturing Pallets**, 2023.07 - 2024.02, Hanyang University. (한양대학교 산업과학연구소 연구지원사업 - 실무책임)
- **Development of Forecasting, Production Planning and Scheduling Algorithms and Framework for APS (Advanced Planning and Scheduling) System**, 2021.12 - 2022.11, Youngsin Metal Industrial Co., Ltd. (산업체 과제 - 실무책임)
- **Consulting Mathematical Optimization Algorithms**, 2021.11 - 2022.10, LG-CNS: Entrue Consulting. (산업체 과제 - 실무책임)
- **Design and Development of Senior Friendly Products Improving the Cognitive Abilities by using Musical Recall**, 2018.01 - 2018.12, Ministry of Trade, Industry & Energy (산업통상자원부 한국산업기술평가관리원 - 실무책임)

## Publications

### Working

#### Conferences

##### Submitted

1. Lee, K.-M., **Kim, H.-I.**, Kang, J.-H., and Lee, D.-H., 2025, An Optimal Sample Average Approximation Algorithm for Disassembly Leveling and Lot-sizing for a Single Product Type with Uncertain Component Yields, *Proceedings of the Asia Pacific Industrial Engineering and Management Systems Conference*, Hangzhou, China. (2025.11)
2. Bai, C., **Kim, H.-I.**, and Lee, D.-H., 2025, A Multi-tree Genetic Programming Algorithm for Scheduling Remanufacturing Systems with Disassembly, Reprocessing and Reassembly Lines, *Proceedings of the Asia Pacific Industrial Engineering and Management Systems Conference*, Hangzhou, China. (2025.11)
3. Moon, H.-J., **Kim, H.-I.**, and Lee, D.-H., 2025, Dynamic Configuration Selection for Non-decreasing demands in Reconfigurable Single-part Flow Lines with Controllable Processing Times, *Proceedings of the Asia Pacific Industrial Engineering and Management Systems Conference*, Hangzhou, China. (2025.11)

##### Being prepared

#### Journals

### Submitted

1. **Kim, H.-I.**, and Lee, D.-H., 2025, Two-phase Optimal and Heuristic Algorithms for Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits, Under 1<sup>st</sup> revision, *European Journal of Operational Research*. – **SCIE**

### Being prepared

2. **Kim, H.-I.**, and Lee, D.-H., A Genetic Programming based Variable Neighborhood Search Algorithm for Hybrid Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits. – **SCIE**
3. **Kim, H.-I.**, and Lee, D.-H., Digital Twin-driven Multi-objective Dynamic Hybrid Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits. – **SCIE**
4. **Kim, H.-I.**, Lee, J.-Y., Moon, H.-J., and Lee, D.-H., Configuration Selection Algorithms for Reconfigurable Multi-part Flow Lines with Non-identical Machines at Each Stage and Operation Lot Splitting. – **SCIE**
5. Bai C., **Kim H.-I.**, and Lee, D.-H., Operations Scheduling for Remanufacturing Systems with Flow-shop-type Disassembly, Reprocessing and Reassembly Shops. – **SCIE**
6. Lee, K.-M., **Kim, H.-I.**, Kang, J.-H., and Lee, D.-H., Disassembly Leveling and Lot-sizing for Uncertain Disassembly Operations: Solution Algorithms and a Case Study on Electric Vehicle Battery. – **SCIE**
7. Lee, J.-Y., **Kim, H.-I.**, and Lee, D.-H., An Iterative Approach for Configuration Selection and Scheduling of Reconfigurable Multi-part Flow Lines with Controllable Processing Times. – **SCIE**
8. Moon, H.-J., **Kim, H.-I.**, and Lee, D.-H., Dynamic Configuration Selection for Reconfigurable Single-part Flow Lines with Controllable Processing Times. – **SCIE**

### Published (17 citations)

[h-index: 2 / i10-index: 0]

### International Journals

#### 2025

1. **Kim, H.-I.**, Kim, Y.-R., and Lee, D.-H., 2025, A Genetic Programming based Reinforcement Learning Algorithm for Dynamic Hybrid Flow Shop Scheduling with Reworks under General Queue Time Limits, submitted to *Computers & Industrial Engineering*, Vol. 203, 111062. – **SCIE** (2025.05)
2. **Kim, H.-I.**, Youn, A.-J., and Lee, D.-H., 2025, A Mathematical Model and Solution Algorithms for Optimizing System-level Configurations of Reconfigurable Single Part Flow Lines, Vol. 63, No. 1, pp. 9-25. – **SCIE** (2025.01)

#### 2024

1. Cho, Y., **Kim, H.-I.**, Kim, Y.-R., Yoo, S.-K., Kim, B.-H., and Lee, D.-H., 2024, A Scheduling Mechanism for Hybrid Flow Shops with Reworks under General Queue Time Limits, *Proceedings of the Institution of Mechanical Engineers Part B: Journal of Engineering Manufacture*, Vol. 238, No. 6-7, pp. 962-970. – **SCIE** (2024.05)
2. Jung, H., **Kim, H.-I.**, and Lee, D.-H., 2024, Team Orienteering with Possible Multiple Visits: Mathematical Model and Solution Algorithms, *Computers & Industrial Engineering*, Vol. 190, 110097. – **SCIE** (2024.04)

#### 2023

1. Choi, Y.-H., **Kim, H.-I.**, and Lee, D.-H., 2023, Disassembly Leveling and Lot-sizing for Multiple Product Types with Uncertain Component Demands, *Proceedings of the Institution of Mechanical Engineers Part B: Journal of Engineering Manufacture*, Vol. 237, No. 11, pp. 1660-1670. – **SCIE** (2023.11)
2. **Kim, H.-I.**, and Lee, D.-H., 2023, Scheduling Algorithms for Multi-stage Flow Shops with Reworks under Overlapped Queue Time Limits, *International Journal of Production Research*, Vol. 61, No. 20, pp. 6908-6922. – **SCIE** (2023.08)

## **Domestic Journals**

### **2024**

1. Li, X., **Kim, H.-I.**, and Lee, D.-H., 2024, Capacity Scalability Planning Algorithms for Job-shop-type Reconfigurable Manufacturing Systems with Dynamic Demands, to appear in *Journal of the Korean Institute of Industrial Engineers (대한산업공학회지)*, 50(3) 2024: 157-172. – **KCI** (2024.06)
2. Sim, D.-G., Choi, H., **Kim, H.-I.**, Youn, A.-J., and Lee, D.-H., 2024, Priority Scheduling for Flexible Machining Systems with Multiple Setup Stations and Multi-fixturing Pallets, *Journal of the Research Institute of Industrial Science (산업과학연구소 논문집)*

## **International Conferences**

### **2024**

4. **Kim, H.-I.**, and Lee, D.-H., 2024, Two-phase Variable Neighborhood Search Algorithms for Multi-stage Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits, *Proceedings of the Asia Pacific Industrial Engineering and Management Systems Conference*, Chiang Mai, Thailand. (2024.11)
5. Lee, J.-Y., **Kim, H.-I.**, Choi, Y.-H., and Lee, D.-H., 2024, Hybrid Flow Shop Scheduling with Eligible Unrelated Parallel Machines and Controllable Processing Times, *Proceedings of the Asia Pacific Industrial Engineering and Management Systems Conference*, Chiang Mai, Thailand. (2024.11)

### **2023**

1. Sim, D.-G., **Kim, H.-I.**, Youn, A.-J., and Lee, D.-H., 2023, Operations Scheduling for Flexible Manufacturing Systems with Multiple Setup Stations and Multi-fixturing Pallets, *Proceedings of the International Conference on Sustainable Energy and Green Technology (SEGT 2023)*, Ho Chi Minh City, Vietnam. (2023.12)
2. **Kim, H.-I.**, and Lee, D.-H., 2023, Variable Neighborhood Search Algorithms for Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits: Minimizing Total Tardiness, *Proceedings of the 17th International Congress on Logistics and SCM Systems (ICLS 2023)*, Seoul, Korea. (2023.08) – **Best Presentation Award**
3. **Kim, H.-I.**, Youn A.-J., Lee, S.-H., and Lee, D.-H., 2023, Variable Neighborhood Search Algorithms for System-level Configuration Selection in Reconfigurable Single Part Flow Lines, *Proceedings of the 27th International Conference on Production Research (ICPR 2023)*, Cluj-Napoca, Romania. (2023.07)
4. **Kim, H.-I.**, and Lee, D.-H., 2023, A Two-level Optimal Algorithm for Three-machine Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits, *Proceedings of the 27th International Conference on Production Research (ICPR 2023)*, Cluj-Napoca, Romania. (2023.07)

### **2022**

1. Li, X., **Kim, H.-I.**, and Lee, D.-H., 2022, Multi-period Capacity Scalability Planning Algorithms for

Job-shop-type Reconfigurable Manufacturing Systems with Increasing Demands, *Proceedings of the Asia Pacific Industrial Engineering and Management Systems Conference (APIEMS 2022)*, Taichung, Taiwan. (2022.11)

## **Domestic Conferences**

### **2025**

1. **Kim, H.-I.**, and Lee, D.-H., 2025, A Genetic Programming based Variable Neighborhood Search Algorithm for Hybrid Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits, *Proceedings of the Spring KIIIE/KORMS/KSS Joint Conference*, Jeju, South Korea. (2025.06)
2. **Kim, H.-I.**, Lee, K.-M., and Lee, D.-H., 2025, System Configuration Selection Algorithms for Reconfigurable Multi-part Flow Lines with Non-identical Parallel Machine Workstations, *Proceedings of the Spring KIIIE/KORMS/KSS Joint Conference*, Jeju, South Korea. (2025.06)

### **2024**

1. **Kim, H.-I.**, and Lee, D.-H., 2024, Genetic Programming based Scheduling for Hybrid Flow Shops with Reworks under Overlapped Queue Time Limits, *Proceedings of the Fall KIIIE Conference*, Seoul, South Korea. (2024.10)
2. **Kim, H.-I.**, and Lee, D.-H., 2024, A Branch and Bound Algorithm for Three-stage Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits, *Proceedings of the Spring KIIIE/KORMS/KSS Joint Conference*, Yeosu, South Korea. (2024.05)
3. Youn, A.-J., **Kim, H.-I.**, and Lee, D.-H., 2024, System-level Configuration Optimization for Reconfigurable Single Part Flow Lines with Controllable Processing Times, *Proceedings of the Spring KIIIE/KORMS/KSS Joint Conference*, Yeosu, South Korea. (2024.05)

### **2023**

1. **Kim, H.-I.**, Youn, A.-J., Lee, K.-M., and Lee, D.-H., 2023, System-level Configuration Selection Algorithms for Reconfigurable Single Part Flow Lines, *Proceedings of the Fall KIIIE Conference*, UNIST, Ulsan, South Korea. (2023.11)
2. Li, X., **Kim, H.-I.**, Lee, S.-H., and Lee, D.-H., 2023, Dynamic Capacity Scalability Algorithms for Job-shop-type Reconfigurable Manufacturing Systems, *Proceedings of the Spring KIIIE/KORMS Joint Conference*, Jeju, Korea. (2023.06)
3. Kim, Y.-R., **Kim, H.-I.**, and Lee, D.-H., 2023, A Deep Reinforcement Learning based Scheduling Approach for Hybrid Flow Shops with Reworks under Queue Time Limits, *Proceedings of the Spring KIIIE/KORMS Joint Conference*, Jeju, Korea. (2023.06)

### **2022**

1. Kim, Y.-R., **Kim, H.-I.**, and Lee, D.-H., 2022, A Genetic Programming Approach for Hybrid Flow Shop Scheduling with Reworks under Queue Time Limits, *Proceedings of the Fall KIIIE Conference*, Incheon National University, Incheon. (2022.11)
2. Jung, H., **Kim, H.-I.**, and Lee, D.-H., 2022, Iterated local search algorithms for team orienteering problem with possible multiple visits, *Proceedings of the Fall KIIIE Conference*, Incheon National University, Incheon. (2022.11)
3. Sim, D.-G., **Kim, H.-I.**, Kim, G., Choi, J., and Lee, D.-H., 2022, A Case Study on Production Planning for a Bolt Manufacturing System, *Proceedings of the Fall KIIIE Conference*, Incheon National University, Incheon. (2022.11)
4. **Kim, H.-I.**, and Lee, D.-H., 2022, Variable Neighborhood Search Algorithms for Flow Shop Scheduling with Reworks under Overlapped Queue Time Limits, *Proceedings of the Spring KIIIE/KORMS Joint Conference*, Jeju, Korea. (2022.06)

## 2021

1. Heo, S.-S., Sim, D.-G., **Kim, H.-I.**, and Lee, D.-H., 2021, A Random Forest based Scheduling Approach for a Flexible Manufacturing System with Multi-fixturing Pallets, *Proceedings of the Fall KIIIE Conference*, Dongguk University, Seoul. (2021.11)
2. **Kim, H.-I.**, Kim, Y.-R., Li, X., and Lee, D.-H., 2021, Mathematical Model and Simple Heuristic for Flow Shop Scheduling with Overlapped Queue Time Limits and Reworks, *Proceedings of the Spring KIIIE/KORMS Joint Conference*, Seogwipo, Jeju. (2021.06)