

Yongjae Lee

✉ yongzzai1102@gmail.com

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Biography

Yongjae Lee is a master's candidate in Industrial Data Science & Engineering at Pusan National University, Republic of Korea. His research interests include business process management and data science. He received his bachelor's degree in Industrial Engineering from Pusan National University in 2024. He is currently developing deep learning architectures for business process management.

Education

Pusan National University <i>Bachelor's in Industrial Engineering</i>	2018.03 ~ 2024.02
Pusan National University <i>Master's in Industrial Data Science & Engineering</i> <i>Supervisor: Prof. Hyerim Bae</i>	2024.03 ~ 2026.02

Research Projects

A Study on the XPL (eXplainable Process Learning) Methodology based on Artificial Intelligence <ul style="list-style-type: none"> Developed an AI-based process mining methodology to create an automation tool capable of process monitoring, detection, analysis, and improvement. Main Developer 	2023.03 ~ 2026.02
Human Centered – Carbon Neutral Global Supply Chain Research <ul style="list-style-type: none"> Developed a core technology for building an ecosystem that prioritizes safety and environmental sustainability across an integrated supply chain Sub-Developer 	2023.06 ~ 2025.02

Industrial Projects

Development of Process Mining and AI-based Affectionate Intelligence Technology for Customer-Specific Behavior Modeling (with LG Electronics) <ul style="list-style-type: none"> Developed a methodology for managing the customer's product usage process. Main Developer 	2024.03 ~ present
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Teaching Experience

Tutor, LG Electronics Process Mining Term Project	2025.06 ~ 2025.07
Teaching Assistant, LGE Process Mining Classroom Training (Supported by Celonis)	2025.06
Teaching Assistant, LG Electronics Process Mining Classroom Training	2024.06
Teaching Assistant, Data Structures and Algorithms , Undergraduate Course	2024.03 ~ 2024.07

Awards

Grand Prize <ul style="list-style-type: none"> PNU Industrial Artificial Intelligence Competition 	2023.08
Grand Prize <ul style="list-style-type: none"> Graduation Project in Industrial Engineering, Pusan National University 	2023.02

Conference

Only if the first author and presenter

- KIIE**, Korea Institute of Industrial Engineers 2025 Fall Conference 2025.11
 • Title: *DHiM: A Dual-Modality Hierarchical Network for Multi-Perspective Business Process Anomaly Detection*
- BPM 2025 Main Track**, The 23rd International Conference on Business Process Management 2025.09
 • Title: *Multi-task Trained Graph Neural Network for Business Process Anomaly Detection with a Limited Number of Labeled Anomalies*
- ICPR28**, The 28th International Conference on Production Research 2025.07
 • Title: *Process-Aware Prediction of Procurement Lead Time for Shipyard Delay Mitigation*
- LOGMS2023**, The 11th International Conference on Logistics and Maritime Systems 2023.09
 • Title: *Import Container Dwell Time: Analysis of Determinant Factors with Explainable Artificial Intelligence*

Publications

Excluding Korean Publications

- [1] Reasoning-Aware Proxy Reward Model using Process Mining 2025.10
Yongjae Lee, Taekhyun Park, Sunghyun Sim, Hyerim Bae
arXiv preprint
- [2] Multi-task Trained Graph Neural Network for Business Process Anomaly Detection with a Limited Number of Labeled Anomalies 2025.08
Yongjae Lee, Dohee Kim, Donghwan Kim, Hyerim Bae
Lecture Notes in Computer Science (LNCS)
- [3] Identifying Key Factors influencing Import Container Dwell Time using eXplainble Artificial Intelligence 2024.12
Yongjae Lee, Kikun Park, Hyunjae Lee, Jongpyo Son, Seonhwan Kim, Hyerim Bae
Maritime Transport Research (IF 3.9)
- [4] Predictive Process Monitoring for Remaining Time Prediction with Transfer Learning 2024.08
 I.A. Nur, K.I. Mustafa, R.M. Hanif, Dohee Kim, **Yongjae Lee**, Hyerim Bae
ICIC Express Letters
- [5] JustDense: Just using Dense instead of Sequence Mixer for Time Series Analysis Accepted
 Taekhyun Park, **Yongjae Lee (co-first)**, Daesan Park, Dohee Kim, Hyerim Bae
IEEE International Conference on Big Data 2025 Proceeding
- [6] Process-Aware Procurement Lead Time Prediction for Shipyard Delay Mitigation Under Review
Yongjae Lee, Eunhee Park, Daesan Park, Dongho Kim, Jongho Choi, Hyerim Bae
 Submitted to selected papers of international conference on production research (ICPR)

Patents

- Continual Learning Method and Device with Adaptive Memory Mechanism for Predictive Process Monitoring 2025.02
 • Hyerim Bae, I.A. Nur, **Yongjae Lee**, Dohee Kim
 • Korean Patent, No.10-2025-0026041

Tech Stack

Language: Python, JavaScript

Framework: PyTorch, PyTorch Geometric

Simulation: Siemens Plant Simulation

Markup: Markdown, Latex, HTML, CSS