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Yongjae Lee

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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 2018.03 ~ 2024.02
Bachelor's in Industrial Engineering

Pusan National University 2024.03 ~ present
Master's in Industrial Data Science & Engineering
Supervisor: Prof. Hyerim Bae

Research Projects

A Study on the XPL (eXplainable Process Learning) Methodology based on Artificial Intelligence 2023.03 ~ present
- *Developed an AI-based process mining methodology to create an automation tool capable of process monitoring, detection, analysis, and improvement.*
- *Main Developer*

Human Centered – Carbon Neutral Global Supply Chain Research 2023.06 ~ 2025.02
- *Developed a core technology for building an ecosystem that prioritizes safety and environmental sustainability across an integrated supply chain*
- *Sub-Developer*

Industrial Projects

Development of Process Mining and AI-based Affectionate Intelligence Technology for Customer-Specific Behavior Modeling (with LG Electronics) 2024.03 ~ present
- *Developed a methodology for managing the customer's product usage process.*
- *Main Developer*

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 2023.08
- *PNU Industrial Artificial Intelligence Competition*

Grand Prize 2023.02
- *Graduation Project in Industrial Engineering, Pusan National University*

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 GRPO using Process Mining — 2025.10
Taekhyun Park, ***Yongjae Lee (co-first)****, 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