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Yongjae Lee

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Biography

Yongjae Lee is a master's candidate in Industrial Data Science & Engineering at the Pusan National University, Republic of Korea. His research interests include Business Process Management, Process Mining, and Data Science. He received his bachelor's degree in industrial engineering from Pusan National University in 2024. He is currently working on developing deep learning architectures for process mining and 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

Projects

(Research) A Study on the XPL (eXplainable Process Learning) *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*

(Industrial) 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*

(Research) 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—spanning maritime, port, and land transport.*
- *Sub-Developer*

Teaching Experience

Teaching Assistant, LG Electronics *2025.06 ~ 2025.07*
- *LG Electronics Process Mining Term Project Guidance (3rd Prize)*
- *Title: Customer Claim Analysis System with Interface based on RAG*

Teaching and Practicum Assistant, LG Electronics *2025.06*
- *Process Mining Classroom Training for LG Electronics (Supported by Celonis)*

Teaching and Practicum Assistant, LG Electronics *2024.06*
- *Process Mining Classroom Training for LG Electronics*

Teaching and Practicum Assistant, Pusan National University *2024.03 ~2024.07*
- *Data Structures and Algorithms for Undergraduates*

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

The 23rd International Conference on Business Process Management (BPM2025) *2025.09*
- *Main Track*
- *Title: Multi-task Trained Graph Neural Network for Business Process Anomaly Detection with a Limited Number of Labeled Anomalies*

The 28th International Conference on Production Research (ICPR28) *2025.07*
- *Title: Process-Aware Prediction of Procurement Lead Time for Shipyard Delay Mitigation*

The 11th International Conference on Logistics and Maritime Systems (LOGMS2023) *2023.09*
- *Title: Import Container Dwell Time: Analysis of Determinant Factors with Explainable Artificial Intelligence*

Publications

Excluding Korean Publications

[1] 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)

[2] 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)

[3] 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

[4] 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

[5] JustDense: Just using Dense instead of Sequence Mixer for Time Series Analysis *Under Review*
*Taekhyun Park, **Yongjae Lee (co-first)**, Daesan Park, Dohee Kim, Hyerim Bae*
Submitted to IEEE International Conference on Big Data 2025

Patents

Continual Learning Method and Device with Adaptive Memory Mechanism for Predictive Process Monitoring *2025*
- *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