Wonkeun **Jo**

PH.D. CANDIDATE OF THE CHUNGNAM NATIONAL UNIVERSITY

99 Daehak-ro, Yuseong-gu, Daejeon

✉ jowonkun@g.cnu.ac.kr | 🏠 https://themore-dont-know.tistory.com/ | merchen911 | 🎓 Wonkeun Jo

Experience

National R&D project

트윈-디지털 스레드 기반 공작기계 지능화 및 공정 최적화 기술 개발	*2023 +* *Korean Ministry of Trade, Industry and Energy*

박사과정생 연구장려금 지원 사업
No. 2022R1A6A3A13056750

2022 - 2023
Korean Ministry of Education

Industrials

2020 - 2022

- 공구 상태 분류 모델 및 가공조건/장비 변화 적응형 학습방법론 개발
- 딥러닝 기반 절삭력 유사도 지표 및 공구 수명 예측 방법론 개발
- 가공공정 데이터 기반 변화 및 외부 데이터 적응형 머신러닝 학습 방법론 개발
- 공정 데이터 기반 가공 조건 민감도 분석

Korea Institute of Industrial Technology

Health Care

2019 - 2020

- 심박 데이터를 기반으로 한 혈압예측 인공지능 설계를 통한 기업지원

Korea Testing Laboratory

Astronomy

2020

- 태양 이벤트 탐지 및 분류 방법 개발

Korea Astronomy

Teaching

Deep learning, Daejeon Information & Culture Industry Promotion Agency	*May - Jun, 2023*
Advanced machine learning & Deep learning, Samsung Electronics' semiconductor division	*Aug, 2019*
Basic machine learning, Samsung Electronics' semiconductor division	*Jul, 2019*
Basic machine learning, Samsung Electronics' SWAT trcak	*Jun, 2019*

Awards

The 1st place of the HeLP Challenge 2023
ASAN MEDICAL CENTER, MINISTRY OF HEALTH AND WELFARE, AND MINISTRY OF SCIENCE AND ICT

Jul - Aug, 2023
Asan Medical Center & Naver cloud

The 3rd place of The AI Graduate Challenge with KT Mi:dm
MINISTER OF SCIENCE AND ICT, ARTIFICIAL INTELLIGENCE GRADUATE SCHOOL COUNCIL, AND KT

Jul - Aug, 2023
AI factory

Dean's Award of the Graduate School

Aug, 2022
CNU

Journals

Neural additive time-series models: explainable deep learning for multivariate time-series prediction

Oct. 2023

EXPERT SYSTEMS WITH APPLICATIONS, VOL 228 (SCIE, IF=8.665, Q1, TOP 10%)

Wonkeun Jo, and Dongil Kim

Strong Rashba parameter of two-dimensional electron gas at CaZrO3/SrTiO3 heterointerface

Sep. 2023

SCIENTIFIC REPORT 13, (SCIE, IF=4.6, Q2)

*Duhyuk Kwon, Yongsu Kwak, Doopyo Lee, **Wonkeun Jo**, Byeong-Gwan Cho, Tae-Yeong Koo, Jonghyun Song*

Deep learning-based cutting force prediction for machining process using monitoring data

Mar. 2023

PATTERN ANALYSIS AND APPLICATIONS, (SCIE, IF=3.9, Q2)

*Soomin Lee, **Wonkeun Jo**, Hyein Kim, Jeongin Koo, Dongil Kim*

OBGAN: minority oversampling near borderline with generative adversarial networks

Jul. 2022

EXPERT SYSTEMS WITH APPLICATIONS, VOL 197, 1 (SCIE, IF=8.665, Q1, TOP 10%)

Wonkeun Jo, and Dongil Kim

Solar Event Detection Using Deep-Learning-Based Object Detection Methods

2021

SOLAR PHYSICS, VOL. 296, 160 (SCIE, IF=2.961, Q2)

*Ji-Hye Baek, Sujin Kim, Seonghwan Choi, Jongyeob Park, Jihun Kim, **Wonkeun Jo**, and Dongil Kim*

International conferences

Transformer-based unsupervised anomaly detection with multivariate time series

Oct. 2023

INFORMS ANNUAL MEETING 2023

*Soomin Lee, Juheon Kwak, **Wonkeun Jo**, Sungsu Lim, and Dongil Kim*

Diffusion model-based oversampling for class imbalanced problems

Oct. 2023

INFORMS ANNUAL MEETING 2023

*Geonhee Jang, **Wonkeun Jo**, Sungsu Lim, and Dongil Kim*

Clustering morphological properties of cells using neural network-based image segmentation models

Oct. 2023

INFORMS ANNUAL MEETING 2023

*Hyemin Lim, Geonhee Jang, **Wonkeun Jo**, Yeong Jun Koh, and Dongil Kim*

Cutting Force Similarity Calculation in Milling Process Using Siamese LSTM Structure

Feb. 2023

THE 2ND INTERNATIONAL CONFERENCE ON MECHATRONICS AND ELECTRICAL ENGINEERING

*Juheon Kwak, **Wonkeun Jo**, Soomin Lee, Hyein Kim, Jeongin Koo, Dongil Kim*

The explaiable neural networks for nowcasting

Oct. 2022

INFORMS ANNUAL MEETING 2022

Wonkeun Jo, and Dongil Kim

Prediction of tool wear based on machine learning for cutting force

Oct. 2022

INFORMS ANNUAL MEETING 2022

*Hoguen Koo, Soomin Lee, **Wonkeun Jo**, Hyein Kim, Jeongin Koo, Juheon Kwak, and Dongil Kim*

Machine learning-based sleep quality prediction with body signal data

Oct. 2022

INFORMS ANNUAL MEETING 2022

*Hyojeong Kang, Juheon Kwak, **Wonkeun Jo**, and Dongil Kim*

Cutting force similarity calculation in milling process using siamese LSTM structure

Feb. 2022

The 11th International Conference on Industrial Technology and Management (ICITM)

*Juheon Kwak, **Wonkeun Jo**, Soomin Lee, Hyein Kim, Jeongin Koo, and Dongil Kim*

Blood pressure prediction based on deep learning with PPG and ECG signal data

Oct. 2021

INFORMS annual meeting 2021

*Junwon Park, **Wonkeun Jo**, Hogeun Koo, Hyungtaik Oh, Kyhyup Oh, and Dongil Kim*

Deep learning-based cutting force prediction with machining process monitoring data

Oct. 2021

INFORMS annual meeting 2021

*Soomin Lee, **Wonkeun Jo**, Dongil Kim, Hyein Kim, and Jeongin Koo*

Improvement of class imbalanced classification performance with generative adversarial network

Nov. 2020

INFORMS annual meeting 2020

***Wonkuen Jo**, Dongil Kim*

Domestic conferences

Diffusion model-based oversampling for class imbalanced problems

Jun. 2023

Korea Computer Conference 2023 (KCC2023)

*Geonhee Jang, **Wonkeun Jo**, Sungsu Lim, and Dongil Kim*

Adversarial attacks of regression model based on deep learning using multivariate time series

Jun. 2023

Korea Data Mining Society Conference 2023 (KDMS2023)

*Juheon Kwak, **Wonkeun Jo**, Soomin Lee, and Dongil Kim*

신경망 이미지 분할 모델을 이용한 세포의 형태학적 특성 군집화

Apr. 2023

Korean Institute of Intelligent Systems (KIIS2023)

*Hyemin Lim, **Wonkeun Jo**, Youngjoon Kho, and Dongil Kim*

Machine learning-based prediction of user state on the computer tasking

Feb. 2023

Korea Conference on Software Engineering

*Hyojeong Kang, Soomin Lee, **Wonkeun Jo**, and Dongil Kim*

특징 추출과 딥러닝을 활용한 항원 결정기 예측

Nov. 2022

Korean DataBase Conference 2022

*Jungmin Ha, **Wonkeun Jo**, and Young-Kuk Kim*

Both authors equally contributed.

Neural additive models for nowcasting

Nov. 2022

Korea Data Mining Society Conference 2022

***Wonkeun Jo**, and Dongil Kim*

Sleep Quality Prediction with E4 Wireless Dataset based on Machine Learning

Aug. 2022

Korea Computer Congress 2022 (KCC2022)

*Hyojeong Kang, Juheon Kwak, **Wonkeun Jo**, and Dongil Kim*

Interpretable Neural Network for Time Series Nowcasting

Aug. 2022

Korea Computer Congress 2022 (KCC2022)

***Wonkeun Jo**, and Dongil Kim*

Recommendation System Based on Graph Collaborative Filtering Using Explicit Information

Dec. 2021

Korea Software Congress 2021 (KSC2021)

*Hyungtaik Oh, **Wonkeun Jo**, and Dongil Kim*

Hybrid Sequential Recommendation System Using k-NN and Graph Neural Networks

KOREA SOFTWARE CONGRESS 2021 (KSC2021)

Dec. 2021

Hogeun Koo, Soomin Lee, **Wonkeun Jo,** *and Dongil Kim*

Milling tool wear prediction based on sensor and time-series feature extraction

KOREA SOFTWARE CONGRESS 2021 (KSC2021)

Dec. 2021

Wonkeun Jo, *Hogeun Koo, Hyein Kim, Jeongin Koo, and Dongil Kim*

Methodology of Cutting Force Similarity Calculation in Milling Process using Siamese LSTM Structure

KOREA SOFTWARE CONGRESS 2021 (KSC2021)

Dec. 2021

Juheon Kwak, **Wonkeun Jo,** *Soomin Lee, Hyein Kim, Jeongin Koo, and Dongil Kim*

Deep learning-based cutting force prediction with machining process monitoring data

KOREA COMPUTER CONGRESS 2021 (KCC2021)

Jun. 2021

Soomin Lee, **Wonkeun Jo,** *Hyein Kim, Jeongin Koo, and Dongil Kim*

Blood pressure prediction based on deep learning with PPG and ECG

KOREA COMPUTER CONGRESS 2021 (KCC2021)

Jun. 2021

Junwon Park, **Wonkeun Jo,** *Kyhyup Oh, and Dongil Kim*

Machine learning-based elderly depression prediction with pattern-of-life data

KOREA SOFTWARE CONGRESS 2020 (KSC2020)

Dec. 2020

Soomin Lee, Seonyoung Kim, **Wonkuen Jo,** *Junyoung Choi, Hyungshin Kim, and Dongil Kim*

Intelligent data generation with generative adversarial nets for class-imbalanced problems

KOREA COMPUTER CONGRESS 2020 (KCC2020)

Jul. 2020

Wonkuen Jo, *and Dongil Kim*

Education

Chungnam National University

PH.D. IN COMPUTER SCIENCE & ENGINEERING

Adviser: Dong-il Kim (EHWA) & Sung-su Lim (CNU)

Mar. 2021 +

Daejeon, S.Korea

Chungnam National University

M.S. IN COMPUTER SCIENCE & ENGINEERING

Adviser: Dong-il Kim

Mar. 2019 - Feb. 2021

Daejeon, S.Korea

Chungnam National University

B.S. IN PHYSICS

Mar. 2011 - Aug. 2018

Daejeon, S.Korea