

Yunhak Oh

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RESEARCH INTEREST

Applied Machine Learning

Mining meaningful knowledge from data to develop solutions for real changes to create practical value

- Recommender System, Graph Representation Learning, AI for Science

PROFESSIONAL EXPERIENCE

NielsenIQ (formerly Nielsen), Seoul, South Korea

- Manager, Data Science Jul 2018 – Aug 2021
 - Spearheaded the Auto-coding project, developing models for classifying brands and categories from web-crawled descriptions, resulting in a \$54K USD cost reduction over three months
 - Devised an innovative e-commerce market analysis approach by integrating estimations from major retailers and strategically reorganizing retailer groups to reflect market growth, resulting in a contribution of \$71.9K in revenue
 - Assisted the Merger and Acquisition process by spearheading the integration of data and solutions between the two companies, successfully contributing to the realization of a project valued at \$901K USD
 - Led a global initiative as Technical Lead to automate the client inquiry resolution process, significantly enhancing operational efficiency in collaboration with international stakeholders
- Senior Executive, Data Science Jul 2017 – Jun 2018
 - Managed data change initiatives by implementing a data-driven methodology for estimating historical data, resulting in an 83% reduction in production time
 - Led the transition to modern retail point-of-sale systems, modernizing traditional trade practices
- Executive, Data Science Jan 2015 – Jun 2017
 - Spearheaded a trading area analysis by integrating sales data, credit card transactions, and telecom traffic insights
 - Proactively developed software to enhance daily work efficiency, resulting in a 92% reduction in data extraction time and a 50% decrease in report generation time

EDUCATION

KAIST (Korea Advanced Institute of Technology), Daejeon, South Korea

- Ph.D. in Graduate School of Data Science Sep 2023 – Present
 - Research Interest: Recommender System, Graph Representation Learning, AI4Science (Cell Biology)
 - Adviser: [Prof. Chanyoung Park](#)
- M.S. in Industrial & Systems Engineering Sep 2021 – Aug 2023
 - Research Interest: Recommender System, Graph Representation Learning
 - Adviser: [Prof. Chanyoung Park](#)

SungKyunKwan University, Gyeonggi, South Korea

Mar 2009 – Feb 2015

- B.S.E. in System Management Engineering
 - *Ranked first in my graduating class (1 / 133)*
 - Included two years of mandatory military service in the Office of the President of the Republic of Korea
- B.A. in Psychology
 - Dual Degree

PUBLICATIONS

(*: Equal contribution)

CONFERENCES

- [C5] Global Context-aware Representation Learning for Spatially Resolved Transcriptomics
Yunhak Oh*, Junseok Lee*, Yeongmin Kim, Sangwoo Seo, Namkyeong Lee, Chanyoung Park
ICML 2025 - International Conference on Machine Learning
- [C4] Subgraph Federated Learning for Local Generalization
Sungwon Kim, Yoonho Lee, **Yunhak Oh**, Namkyeong Lee, Sukwon Yun, Junseok Lee, Sein Kim, Carl Yang, Chanyoung Park
ICLR 2025 (Oral, top 1.8%) - International Conference on Learning Representations and
KDD 2024 Workshop (Oral, Best Paper Award) - Federated Learning for Data Mining and Graph Analytics (FedKDD)
- [C3] 3D Interaction Geometric Pre-training for Molecular Relational Learning
Namkyeong Lee, **Yunhak Oh**, Heewoong Noh, Gyoung S. Na, Tianfan Fu, Chanyoung Park
NeurIPS 2024 Workshop - AI for New Drug Modalities
- [C2] MUSE: Music Recommender System with Shuffle Play Recommendation Enhancement
Yunhak Oh*, Sukwon Yun*, Dongmin Hyun, Sein Kim, Chanyoung Park
CIKM 2023 - ACM International Conference on Information and Knowledge Management

- [C1] GraFN: Semi-Supervised Node Classification on Graph with Few Labels via Non-Parametric Distribution Assignment
Junseok Lee, **Yunhak Oh**, Yeonjun In, Namkyeong Lee, Dongmin Hyun, Chanyoung Park
SIGIR 2022 - ACM SIGIR Conference on Research and Development in Information Retrieval (Short paper)

JOURNALS

- [J2] Discovering relationships between skin type and life style using data mining techniques: A case study of Korea
Taeheung Kim, Jihyun Ha, Jong-Seok Lee, **Yunhak Oh**, Yong Ju Cho
Industrial Engineering and Management Systems (2016.03)
- [J1] Using data mining techniques to predict win-loss in Korean professional baseball games
Yunhak Oh, Han Kim, Jaesub Yun, Jong-Seok Lee
Journal of Korean Institute of Industrial Engineers (2014.02)

AWARDS & SCHOLARSHIPS

- Best Paper Award** 2024
▪ KDD 2024 Workshop on Federated Learning for Data Mining and Graph Analytics (FedKDD), Barcelona, Spain
- Nielsen Simply Excellent Awards, NielsenIQ**
- **Gold Award**, Developed and rolled out a Client Inquiry Tool for the global market 2020
 - **Gold Award**, Created a best practice of Digitalization and Automation 2020
 - **Silver Award**, Developed a Client Inquiry Automation tool 2019
 - **Platinum Award**, Developed and rolled out auto-coding project 2019
 - **Gold Award**, Contributed data and solution integration in the M&A process 2018
 - **Gold Award**, Launched E-commerce Market Read Index version 3.0 of South Korea 2018
 - **Gold Award**, Led Digitalization and Automation project 2017
 - **Gold Award**, Enhanced Ice-cream Market Read Index of South Korea 2017
 - **Gold Award**, Enhanced FMCG Market Read Index of South Korea and boosted client satisfaction 2015
- Certificate, Nielsen** 2019
▪ Selected as one of the top 20 global data science talents to participate in a leadership development program
- Certificate, SungKyunKwan University** 2015
▪ Awarded as a representative of the Department of System Management Engineering at the commencement
- National Science and Engineering Scholarship, Korea Student Aid Foundation** 2013 – 2014
▪ Awarded to a top student in the Department of System Management Engineering
- Bronze Award, Korea Institute of Industrial Engineers** 2013
▪ 3rd place, Solved industrial problems by building an ML model at a University Student Project Competition
- Academic Excellence Scholarship, SungKyunKwan University** 2009 – 2011

PROFESSIONAL SERVICES

- Conference Reviews**
- International Conference on Learning Representations (ICLR) 2025

TALKS AND SEMINARS

- MUSE: Music Recommender System with Shuffle Play Recommendation Enhancement**
- Top Conference Session of Korea Software Congress (KSC) 2023

REFERENCES

- Prof. Chanyoung Park**, Assistant Professor, KAIST
Email: cy.park@kaist.ac.kr
- Prof. Jong-Seok Lee**, Associate Professor, KAIST
Email: jongseok.lee@kaist.ac.kr

[CV compiled on 2025-05-04 for Acme Corporation]