

JAEMIN YOO

Post-doctoral Research Fellow @ Carnegie Mellon University

Email: jaeminyoo@snu.ac.kr \diamond **Web:** jaeminyoo.github.io

POSITIONS

Carnegie Mellon University, Pittsburgh, PA, USA

Mar. 2022 - Present

Post-doctoral Research Fellow, Heinz Colledge

Host: Prof. Leman Akoglu

EDUCATION

Seoul National University, Seoul, South Korea

Mar. 2016 - Feb. 2022

Ph.D. in Computer Science and Engineering

Advisor: Prof. U Kang

Thesis: Probabilistic Approaches for Node and Graph Classification

Received the Best Ph.D. Thesis Award

Seoul National University, Seoul, South Korea

Mar. 2012 - Feb. 2016

B.S. in Computer Science and Engineering

PUBLICATIONS

- [c13] Model-Agnostic Augmentation for Accurate Graph Classification
Jaemin Yoo, Sooyeon Shim, and U Kang
WWW 2022 (acceptance rate $323/1822 = 17.7\%$)
- [c12] MiDaS: Representative Sampling from Real-world Hypergraphs
Minyoung Choe, Jaemin Yoo, Geon Lee, Woonsung Baek, U Kang, and Kijung Shin
WWW 2022 (acceptance rate $323/1822 = 17.7\%$)
- [c11] Transition Matrix Representation of Trees with Transposed Convolutions
Jaemin Yoo and Lee Sael
SDM 2022 (acceptance rate $83/298 = 27.8\%$)
- [c10] Accurate Graph-Based PU Learning without Class Prior
Jaemin Yoo*, Junghun Kim*, Hoyoung Yoon*, Geonsoo Kim, Changwon Jang, and U Kang
ICDM 2021 (regular paper; top 98/990 = 9.9%; *equal contribution)
Selected as one of the best-ranked papers of ICDM 2021 for fast-track journal invitation
- [c9] Accurate Multivariate Stock Movement Prediction via Data-Axis Transformer with Multi-Level Contexts
Jaemin Yoo, Yejun Soun, Yong-chan Park, and U Kang
KDD 2021 (acceptance rate $238/1541 = 15.4\%$)
- [c8] Gaussian Soft Decision Trees for Interpretable Feature-Based Classification
Jaemin Yoo and Lee Sael
PAKDD 2021 (acceptance rate $157/768 = 20.4\%$)
- [c7] Attention-Based Autoregression for Accurate and Efficient Multivariate Time Series Forecasting
Jaemin Yoo and U Kang
SDM 2021 (acceptance rate $85/400 = 21.3\%$)

- [c6] Sampling Subgraphs with Guaranteed Treewidth for Accurate and Efficient Graphical Inference
Jaemin Yoo, U Kang, Mauro Scanagatta, Giorgio Corani, and Marco Zaffalon
WSDM 2020 (acceptance rate $91/615 = 14.8\%$)
- [c5] Knowledge Extraction with No Observable Data
Jaemin Yoo, Minyong Cho, Taebum Kim, and U Kang
NeurIPS 2019 (acceptance rate $1428/6743 = 21.2\%$)
- [c4] EDiT: Interpreting Ensemble Models via Compact Soft Decision Trees
Jaemin Yoo and Lee Sael
ICDM 2019 (acceptance rate $194/1046 = 18.5\%$)
- [c3] Belief Propagation Network for Hard Inductive Semi-Supervised Learning
Jaemin Yoo, Hyunsik Jeon, and U Kang
IJCAI 2019 (acceptance rate $850/4752 = 17.9\%$)
- [c2] Fast and Scalable Distributed Loopy Belief Propagation on Real-World Graphs
Saehan Jo, Jaemin Yoo, and U Kang
WSDM 2018 (acceptance rate $83/514 = 16.3\%$)
- [j1] Efficient Learning of Bounded-Treewidth Bayesian Networks from Complete and Incomplete Data Sets
Mauro Scanagatta, Giorgio Corani, Marco Zaffalon, Jaemin Yoo, and U Kang
International Journal of Approximate Reasoning, vol. 95, pp. 152–166, 2018
- [c1] Supervised Belief Propagation: Scalable Supervised Inference on Attributed Networks
Jaemin Yoo, Saehan Jo, and U Kang
ICDM 2017 (regular paper; top $72/778 = 9.3\%$)

AWARDS & SCHOLARSHIPS

The Best Ph.D. Thesis Award in SNU CSE	<i>Feb. 2022</i>
One of the Best-Ranked Papers of ICDM 2021	<i>Dec. 2021</i>
SNU BK21 Outstanding Graduate Student Award	<i>Jul. 2021</i>
Best Poster Award at AIIS Retreat 2021	<i>Apr. 2021</i>
SIAM Student Travel Awards (SDM 2021)	<i>Apr. 2021</i>
SNU BK21 Star Researcher Award	<i>Feb. 2021</i>
Qualcomm Innovation Fellowship Korea (for Two First-Author Papers)	<i>Dec. 2020</i>
Yulchon AI Star Award	<i>Sep. 2020</i>
Google PhD Fellowship Program (Machine Learning)	<i>Sep. 2019</i>
Samsung HumanTech Paper Award (Honorable Mention)	<i>Feb. 2019</i>
Google Conference Scholarships (ICDM 2017)	<i>Nov. 2017</i>
Paper Award in Scientific and Technical Writing by SNU	<i>Jun. 2014</i>
Undergraduate Student Paper Award at KSC 2014	<i>Jun. 2014</i>
SNU BK21 Scholarship	<i>Mar. 2019 - Aug. 2020</i>
Lecture & Research Scholarship by SNU	<i>Mar. 2016 - Feb. 2019</i>
National Scholarship For Science and Engineering by KOSAF	<i>Mar. 2013 - Jun. 2015</i>

PARTICIPATED PROJECTS

Graph-Based Gold Farming Group Detection System (NCSoft)	Sep. 2020 - Feb. 2021
Deep Learning-Based Recommender System (Wemakeprice)	Feb. 2019 - Dec. 2019
Statistical Learning and Inference Method with PGMs (IDSIA)	Jan. 2016 - Dec. 2018
Feature Selection Method for RNN Recommender Systems (SK Telecom)	Mar. 2018 - Nov. 2018
Temporal Stock Price Prediction System (eMoney)	Aug. 2017 - Feb. 2018
Video Recommender System with Multimodal Data (SK Broadband)	Nov. 2016 - Jun. 2017
Distributed Machine Learning Library on Apache Spark (SK Telecom)	Mar. 2016 - Jan. 2017

INVITED TALKS

KAIST School of Electrical Engineering	Feb. 2022
LG AI Research Tech Talk	Feb. 2022
KAIST AI Student Colloquium	Oct. 2021
SNU AI Summer School 2021	Aug. 2021
SNU AI Institute (AIIS) Retreat 2021	Apr. 2021
NAVER Online Tech Talk	Dec. 2020
SNU AI Summer School 2020	Aug. 2020
SNU Hospital	Jul. 2020
SNU AI Institute (AIIS) Retreat 2020	Jun. 2020
Kakao Enterprise	Jan. 2020
Korea Software Congress 2019	Dec. 2019
Introduction to Data Mining @ SNU CSE	Jul. 2019
Samsung Electronics	Mar. 2019
Istituto Dalle Molle di Studi sull'Intelligenza Artificiale (IDSIA)	Jul. 2018
Korea Software Congress 2017	Dec. 2017

PROFESIONAL SERVICES

PC Member

- KDD (ACM SIGKDD Intl. Conf. on Knowledge Discovery and Data Mining) 2021 - 2022
- SDM (SIAM International Conference on Data Mining) 2022
- AAAI (AAAI Conference on Artificial Intelligence) 2021 - 2022
- BigComp (IEEE International Conference on Big Data and Smart Computing) 2021 - 2022

Journal Reviewer

- Pattern Recognition 2021

TEACHING EXPERIENCE

Teaching Assistant (Seoul National University)

- Large Data Analysis (M1522.000900, 002) Fall 2017
- Introduction to Data Mining (M1522.001400_001) Spring 2017
- Data Structures (M1522.001600_002) Fall 2016

Teaching Assistant (Other Organizations)

- Deep Learning, Samsung Electronics *Apr. 2018 - Feb. 2019*
- Deep Learning, SNU Fourth Industrial Revolution Academy *Oct. 2017 - Dec. 2018*
- Distributed Computing, SNU Big Data Academy *Feb. 2017 - Dec. 2017*
- Distributed Computing, SNU Big Camp *Aug. 2016 - Feb. 2017*

PATENTS

1. Jaemin Yoo and U Kang, “Apparatus and Method for Classifying Nodes”, KR-Registration No. 10-1924832 (2018)
2. Taebum Kim, Jaemin Yoo, and U Kang, “Method for Compressing Deep Learning Neural Networks and Apparatus for Performing the Same”, KR-Registration No. 10-2199285 (2020)
3. Jaemin Yoo and U Kang, “Method for Extracting Knowledge from Artificial Neural Network and Apparatus for Performing the Same”, KR-Registration No. 10-2345262 (2021)
4. Jaemin Yoo, Sooyeon Shim, and U Kang, “Apparatus and Method for Data Augmentation”, KR-Application No. 10-2021-0169909 (2021)
5. Jaemin Yoo, Hyunsik Jeon, Jinhong Jung, and U Kang, “Apparatus and Method for Predicting Feature of Node”, KR-Application No. 10-2021-0172385 (2021)