

# JAEMIN YOO

PhD Candidate @ Seoul National University

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## EDUCATION

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**Seoul National University**

*Mar. 2016 - Present*

*PhD Candidate, Computer Science and Engineering*

Advisor: U Kang

**Seoul National University**

*Mar. 2012 - Feb. 2016*

*Bachelor of Science, Computer Science and Engineering*

## PUBLICATIONS

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- [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

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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	<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

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

## INVITED TALKS

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KAIST AI Student Colloquium	<i>Oct. 2021</i>
SNU AI Summer School 2021	<i>Aug. 2021</i>
SNU AI Institute (AIIS) Retreat 2021	<i>Apr. 2021</i>
NAVER Online Tech Talk	<i>Dec. 2020</i>

SNU AI Summer School 2020 . . . . .	<i>Aug. 2020</i>
SNU Hospital . . . . .	<i>Jul. 2020</i>
SNU AI Institute (AIIS) Retreat 2020 . . . . .	<i>Jun. 2020</i>
Kakao Enterprise . . . . .	<i>Jan. 2020</i>
Korea Software Congress 2019 . . . . .	<i>Dec. 2019</i>
SNU Center for AI Retreat 2019 . . . . .	<i>Jul. 2019</i>
Introduction to Data Mining @ SNU CSE . . . . .	<i>Jul. 2019</i>
Samsung Electronics . . . . .	<i>Mar. 2019</i>
Istituto Dalle Molle di Studi sull'Intelligenza Artificiale (IDSIA) . . . . .	<i>Jul. 2018</i>
Korea Software Congress 2017 . . . . .	<i>Dec. 2017</i>

## PROFESIONAL SERVICES

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### 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

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### 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

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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)