Hyunsik Jeon

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POSITION

University of California San Diego, CA, USA

Sep. 2023 - Present

Postdoctoral Researcher, Computer Science & Engineering

Advisor: Prof. Julian McAuley

EDUCATION

Seoul National University, Seoul, South Korea

Aug. 2023

Ph.D., Computer Science & Engineering

Thesis: "Modeling Bundle Recommendation with Personalized Pattern Analysis"

Distinguished Ph.D. Dissertation Award

Advisor: Prof. U Kang

Seoul National University, Seoul, South Korea

Feb. 2019

M.Sc., Computer Science & Engineering

Thesis: "Context Adaptation for Accurate Recommendation with Collective Matrix Factorization"

Advisor: Prof. U Kang

Hanyang University, Seoul, South Korea

Feb. 2017

B.Sc., Computer Science & Engineering

EXPERIENCE

Hyperconnect, Seoul, South Korea

Jul. 2020 - Aug. 2020

Research Intern, Machine Learning Team

RESEARCH INTERESTS

Recommender Systems

Recommendation for bundle (PLOS ONE'23), news (PAKDD'20, KAIS'21), and action (CIKM'22)

Diversified recommendation (PAKDD'23, PAKDD'23) and explainable recommendation (Arxiv'17)

Utilizing additional information (BigData'19)

Graph Learning

Semi-supervised learning (IJCAI'19) and node-feature estimation (KDD'22)

Transfer Learning

Multi-source domain adaptation (PLOS ONE'21, PLOS ONE'21)

AWARDS AND HONORS

Distinguished Ph.D. Dissertation Award

Aug. 2023

Dept. of CSE at Seoul National University

Sejong Science Fellowship Grants (Overseas Training Track)

May. 2023

Funding for 2 years of Postdoctoral Research, National Research Foundation of Korea

Topic: "Accurate, Robust, and Interactive Recommender Systems for Enhancing User Experience"

SIGIR Student Travel Grants

Aug. 2022

ACM International Conference on Information and Knowledge Management (CIKM), 2022, Atlanta, USA

MIND News Recommendation Competition Award

Sep. 2020

Microsoft Research

Second Prize Award (215 teams participated)

Best Student Paper Award

Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2020, Singapore

HumanTech Paper Award

Feb. 2020

May. 2020

Samsung Electronics

Honorable Mention - 4th in CSE

BigData Student Travel Grants

Dec. 2019

IEEE International Conference on Big Data (BigData), 2019, Los Angeles, USA

PUBLICATIONS

Refereed conferences

C7. Aggregately Diversified Bundle Recommendation via Popularity Debiasing and Configuration-aware Reranking

Hyunsik Jeon, Jongjin Kim, Jaeri Lee, Jong-eun Lee, and U Kang Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**), 2023, Osaka, Japan Oral Presentation - Acceptance Rate: 143/822 = 17.4%

- C6. Diversely Regularized Matrix Factorization for Accurate and Aggregately Diversified Recommendation Jongjin Kim, Hyunsik Jeon, Jaeri Lee, and U Kang Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**), 2023, Osaka, Japan Oral Presentation Acceptance Rate: 143/822 = 17.4%
- C5. Accurate Action Recommendation for Smart Home via Two-Level Encoders and Commonsense Knowledge Hyunsik Jeon, Jongjin Kim, Hoyoung Yoon, Jaeri Lee, and U Kang ACM International Conference on Information and Knowledge Management (CIKM), 2022, Atlanta, USA Oral Presentation Acceptance Rate: 274/1175 = 23.2%
- C4. Accurate Node Feature Estimation with Structured Variational Graph Autoencoder Jaemin Yoo, <u>Hyunsik Jeon</u>, Jinhong Jung, and U Kang ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2022, Washington DC, USA Oral Presentation Acceptance Rate: 254/1695 = 15.0%
- C3. Accurate News Recommendation Coalescing Personal and Global Temporal Preferences Bonhun Koo, <u>Hyunsik Jeon</u>, and U Kang Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**), 2020, Singapore Oral Presentation - Acceptance Rate: 135/628 = 21.5% Best Student Paper Award
- C2. Data Context Adaptation for Accurate Recommendation with Additional Information Hyunsik Jeon, Bonhun Koo, and U Kang

 IEEE International Conference on Big Data (**BigData**), 2019, Los Angeles, USA

 Oral Presentation Acceptance Rate: 106/550 = 19.3%

 Samsung HumanTech Paper Award
- C1. Belief Propagation Network for Hard Inductive Semi-supervised Learning Jaemin Yoo, <u>Hyunsik Jeon</u>, and U Kang International <u>Joint Conference</u> on Artificial Intelligence (**IJCAI**), 2019, Macao, China *Oral Presentation* Acceptance Rate: 850/4752 = 17.9%

Refereed journals

- J4. Accurate Bundle Matching and Generation via Multitask Learning with Partially Shared Parameters Hyunsik Jeon, Jun-Gi Jang, Taehun Kim, and U Kang PLOS ONE, 2023
- J3. PGT: News Recommendation Coalescing Personal and Global Temporal Preferences Bonhun Koo, <u>Hyunsik Jeon</u>, and U Kang Knowledge and <u>Information Systems</u> (KAIS), 2021
- J2. Multi-EPL: Accurate Multi-Source Domain Adaptation Seongmin Lee, <u>Hyunsik Jeon</u>, and U Kang **PLOS ONE**, 2021

J1. Unsupervised Multi-Source Domain Adaptation with No Observable Source Data Hyunsik Jeon, Seongmin Lee, and U Kang

PLOS ONE, 2021

Preprints

A1. UniWalk: Explainable and Accurate Recommendation for Rating and Network Data Haekyu Park, <u>Hyunsik Jeon</u>, Junghwan Kim, Beunguk Ahn, and U Kang **arXiv**:1710.07134, 2017

PATENTS

Korea

- P6. Apparatus and Method for Recommending Bundled Items U Kang, Hyunsik Jeon, Jongjin Kim, Jaeri Lee, and Jong-eun Lee (filed on Nov. 2022)
- P5. Method and Apparatus for Recommending Items Based on Diversely Regularized Matrix Factorization U Kang, Jongjin Kim, Hyunsik Jeon, and Jaeri Lee (filed on Nov. 2022)
- P4. Electronic Device and Computer Readable Storage Medimum for Control Recommendation U Kang, <u>Hyunsik Jeon</u>, Jongjin Kim, Hoyoung Yoon, Jaeri Lee, Hyunju Seo, Sanghee Kim, and Inchul Hwang (filed on Aug. 2022)
- P3. Apparatus and Method for Predicting Feature of Node U Kang, Jaemin Yoo, Hyunsik Jeon, Jinhong Jung (filed on Dec. 2021)
- P2. Apparatus and Method for Unsupervised Domain Adaptation U Kang, Hyunsik Jeon, and Seongmin Lee (filed on Oct. 2021)
- P1. Explainable and Accurate Recommender Method and System Using Social Network Information and Rating Information
 - U Kang, Haekyu Park, Hyunsik Jeon, and Junghwan Kim (filed on Nov. 2017)

PROFESSIONAL SERVICES

Program Committee IEEE International Conference on Big Data and Smart Computing (BigComp)	2021 - 2023
Reviewer	
IEEE International Conference on Big Data and Smart Computing (BigComp)	2020
ACM International Conference on Information Management (CIKM)	2018 - 2019
IEEE International Conference on Data Mining (ICDM)	2019
International Conference on Learning Representations (ICLR)	2021
ACM SIGKDD Conference of Knowledge Discovery and Data Mining (KDD)	2019 - 2023
Neural Information Processing Systems (NeurIPS)	2021 - 2022
The Web Conference (formerly WWW)	2019 - 2021
ACM International Conference on Web Search and Data Mining (WSDM)	2019
Frontiers in Big Data	2023

INVITED TALKS

Invited Conference Speaker	
Korea Software Congress (KSC) 2022, KIISE	Dec. 21, 2022
Korea Software Congress (KSC) 2019, KIISE	Dec. 19, 2019

TEACHING EXPERIENCE

Seoul National University	
T.A., Undergraduate Research Opportunities Program (UROP) @ SNU	2017, 2020, 2022
T.A., M2177.004900: Theory and Lab of IoT, AI, and Big Data @ SNU	$Spring \ 2019$
T.A., 4190.773: Optimization for Machine Learning (Topics in Artificial Intelligence) @ SNU	Spring 2018
T.A. M1522 000900: Data Structure @ SNU	Fall 2017

Other Organizations	
T.A., Advanced DS @ LG	2023
T.A., AI Master @ Hyundai Motors	2022
T.A., AI Lectures @ KDB	2022 - 2023
T.A., SK-Univ @ SK	2020
T.A., DS Advanced Projects @ LG T.A., DxP (1st) @ Hana Financial Group T.A., AI Action Learning @ Samsung Electronics T.A., NPEX (1st - 2nd) @ Samsung Electronics	2020 2019
	2019 - 2020
	$\mathbf{T.A.}$, $\mathrm{DS^2}$ (3rd - 9th) @ Samsung Electronics
PROJECTS	
Elancer, Job Matching	2023
Samsung C-Lab, Plan Recommender Systems	2023
JungHun Foundation, Recommender Systems Under Constraints	2022
Samsung, Effective Expression and Compression of Knowledge-Base for IoT Devices	2022
Posco-ICT, Recommender Systems for Learning Platform	2022
JungHun Foundation, Recommender Systems Under Constraints	2021
Samsung, Data Driven Analysis and Reasoning for Device Control	2021
LINA, Prediction and Control of Insurance Cancellation	2020
Wemakeprice, Recommender Systems Based on Deep Learning	2019
LG, Failure Detection for Compressor in Refrigerator	2018
LG, Optimization of Sputtering for Uniform Film Formation	2018
SKT, Feature Selection for RNN-based Recommender Systems	2018
SKT, Recommender Systems for Oksusu Videos	2017
GRADUATE COURSEWORK	
4190.676: Artificial Neural Networks @ SNU	Fall 2019
M2177.003000: Advanced Data Mining @ SNU	Fall 2019
M1522.001600: Reinforcement Learning (Topics in Big Data Analytics) @ SNU	$Spring \ 2019$
4190.681A: Genetic Algorithm @ SNU	Spring 2019
4190.771: ML Algorithms in Bioinformatics (Topics in Algorithms) @ SNU	Spring 2018
430.711A: Introduction to Computer Vision @ SNU	Spring 2018
M1522.000500: Information Visualization and Visual Analytics @ SNU	Fall 2017
M1522.001600: Advanced Deep Learning (Topics in Big Data Analytics) @ SNU	Fall 2017
4190.564: Advanced Database @ SNU	Spring 2017
M1522.001600: Deep Learning (Topics in Big Data Analytics) @ SNU	Spring 2017