

Hyunsik Jeon

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EDUCATION

Seoul National University , Seoul, Korea Ph.D., Computer Science and Engineering Advisor: Prof. U Kang	<i>Mar. 2019 - Present</i>
Seoul National University , Seoul, Korea M.Sc., Computer Science and Engineering Thesis: "Context Adaptation for Accurate Recommendation with Collective Matrix Factorization" Advisor: Prof. U Kang	<i>Feb. 2019</i>
Hanyang University , Seoul, Korea B.Sc., Computer Science and Engineering	<i>Feb. 2017</i>

RESEARCH INTERESTS

Recommender Systems

Recommendation for product bundle, e-commerce, news, and IoT
Diversified recommendation
Explainable recommendation

Transfer Learning

Multi-source domain adaptation

Graph Learning

Semi-supervised learning and node-feature estimation

AWARDS AND HONORS

SIGIR Student Travel Grants ACM International Conference on Information and Knowledge Management (CIKM), 2022, Atlanta, USA	<i>Aug. 2022</i>
MIND News Recommendation Competition Award Microsoft Second Prize Award (215 teams participated)	<i>Sep. 2020</i>
Best Student Paper Award Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2020, Singapore	<i>May. 2020</i>
HumanTech Paper Award Samsung Electronics Honorable Mention - 4th in CSE	<i>Feb. 2020</i>
BigData Student Travel Grants IEEE International Conference on Big Data (BigData), 2019, Los Angeles, USA	<i>Dec. 2019</i>

WORK EXPERIENCE

Research Intern

Hyperconnect, Seoul, Republic of Korea	<i>July 2020 - Aug. 2020</i>
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PUBLICATIONS

Conferences

- 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, Hyunsik Jeon, 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, Hyunsik Jeon, 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, Hyunsik Jeon, and U Kang
International Joint Conference on Artificial Intelligence (**IJCAI**), 2019, Macao, China
Oral Presentation - Acceptance Rate: $850/4752 = 17.9\%$

Journals

- J3. PGT: News Recommendation Coalescing Personal and Global Temporal Preferences
Bonhun Koo, Hyunsik Jeon, and U Kang
Knowledge and Information Systems (**KAIS**), 2021
- J2. Multi-EPL: Accurate multi-source domain adaptation
Seongmin Lee, Hyunsik Jeon, 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

- A3. Accurate Bundle Matching and Generation via Multitask Learning with Partially Shared Parameters
Hyunsik Jeon, Jun-Gi Jang, Taehun Kim, and U Kang
arXiv:2210.15460, 2022
- A2. Diversely Regularized Matrix Factorization for Accurate and Aggregately Diversified Recommendation
Jongjin Kim, Hyunsik Jeon, Jaeri Lee, and U Kang
arXiv:2211.01328, 2022
- A1. UniWalk: Explainable and Accurate Recommendation for Rating and Network Data
Haekyu Park, Hyunsik Jeon, 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 Medium for Control Recommendation
U Kang, Hyunsik Jeon, 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*

External 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 - 2022*

Neural Information Processing Systems (NeurIPS) *2021 - 2022*

The Web Conference (formerly known as WWW) *2019 - 2021*

ACM International Conference on Web Search and Data Mining (WSDM) *2019*

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.**, AI Master @ Hyundai Motors *2022*
- **T.A.**, AI Lectures @ KDB *2022*
- **T.A.**, SK-Univ @ SK *2020*
- **T.A.**, DS Advanced Projects @ LG *2020*
- **T.A.**, DxP (1st) @ Hana Financial Group *2019*

- **T.A.**, AI Action Learning @ Samsung Electronics *2019*
- **T.A.**, NPEX (1st - 2nd) @ Samsung Electronics *2019 - 2020*
- **T.A.**, DS² (3rd - 9th) @ Samsung Electronics *2019 - 2022*

PROJECTS

JungHun Foundation, Recommender Systems Under Constraints	<i>2022</i>
Samsung, Effective Knowledge-Base Expression and Compression for IoT Devices	<i>2022</i>
Posco-ICT, Recommender Systems for Learning Platform	<i>2022</i>
JungHun Foundation, Recommender Systems Under Constraints	<i>2021</i>
Samsung, Data Driven Analysis and Reasoning for Device Control	<i>2021</i>
LINA, Prediction and Control of Insurance Cancellation	<i>2020</i>
Wemakeprice, Recommender Systems Based on Deep Learning	<i>2019</i>
LG, Failure Detection for Compressor in Refrigerator	<i>2018</i>
LG, Optimization of sputtering for uniform film formation	<i>2018</i>
SKT, Feature Selection for RNN-based Recommender Systems	<i>2018</i>
SKT, Recommender Systems for Oksusu Videos	<i>2017</i>

GRADUATE COURSEWORK

4190.676: Artificial Neural Networks @ SNU	<i>Fall 2019</i>
M2177.003000: Advanced Data Mining @ SNU	<i>Fall 2019</i>
M1522.001600: Reinforcement Learning (Topics in Big Data Analytics) @ SNU	<i>Spring 2019</i>
4190.681A: Genetic Algorithm @ SNU	<i>Spring 2019</i>
4190.771: ML algorithms in bioinformatics (Topics in Algorithms) @ SNU	<i>Spring 2018</i>
430.711A: Introduction to Computer Vision @ SNU	<i>Spring 2018</i>
M1522.000500: Information Visualization and Visual Analytics @ SNU	<i>Fall 2017</i>
M1522.001600: Advanced Deep Learning (Topics in Big Data Analytics) @ SNU	<i>Fall 2017</i>
4190.564: Advanced Database @ SNU	<i>Spring 2017</i>
M1522.001600: Deep Learning (Topics in Big Data Analytics) @ SNU	<i>Spring 2017</i>