KYUNGWOO SONG

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EDUCATION

KAIST, Daejeon, Korea *Mar. 2017 - Feb. 2021 (expected)*
Ph.D. student in AAILab, ISysE (Industrial & Systems Engineering)
Advisor: Il-Chul Moon
Area : Sequence Model, Context Aware Model, Generative Model

KAIST, Daejeon, Korea *Mar. 2015 – Feb. 2017*
M.S. in AAILab, ISysE
Advisor: Il-Chul Moon

KAIST, Daejeon, Korea *Feb. 2010 – Feb. 2015*
B.S. in Mathematical Sciences
B.S. in ISysE

PUBLICATIONS

Peer-Reviewed Papers

[1] Seungjae Shin, **Kyungwoo Song**, Joonho Jang, Hyemi Kim, Weonyoung Joo and Il-Chul Moon. Neutralizing Gender Bias in Word Embedding with Latent Disentanglement and Counterfactual Generation, Findings of EMNLP 2020

[2] ByeongHu Na, Hyemi Kim, **Kyungwoo Song**, Weonyoung Joo, Yoonyeong Kim, Il-Chul Moon. Deep Generative Positive-Unlabeled Learning under Selection Bias, CIKM 2020

[3] **Kyungwoo Song**. Context Aware Sequence Modeling, IJCAI-PRICAI 2020 Doctoral Consortium.

[4] **Kyungwoo Song**, JoonHo Jang, Seung jae Shin, Il-Chul Moon. Bivariate Beta-LSTM. AAAI Conference on Artificial Intelligence (AAAI 2020). New York. Feb. 7-Feb. 12

[5] Su-Jin Shin, **Kyungwoo Song**, Il-Chul Moon. Hierarchically Clustered Representation Learning. AAAI Conference on Artificial Intelligence (AAAI 2020). New York. Feb. 7-Feb. 12

[6] Mingi Ji, Weonyoung Joo, **Kyungwoo Song**, Yoonyeong Kim, Il-Chul Moon. Sequential Recommendation with Relation-Aware Kernelized Self-Attention. AAAI Conference on Artificial Intelligence (AAAI 2020). New York. Feb. 7-Feb. 12

[7] **Kyungwoo Song***, Mingi Ji*, Sungrae Park, and Il-Chul Moon. Hierarchical Context enabled Recurrent Neural Network for Recommendation. AAAI Conference on Artificial Intelligence (AAAI 2019). Hawaii. Jan. 27-Feb. 1 (* Equal Contribution)

[8] Sungrae Park, **Kyungwoo Song**, Mingi Ji, Wonsung Lee, and Il-Chul Moon. Adversarial Dropout for Recurrent Neural Networks. AAAI Conference on Artificial Intelligence (AAAI 2019). Hawaii. Jan. 27-Feb. 1

[9] Il-Chul Moon, Jinhyung Tak, Sang-Hyeon Kim, and **Kyungwoo Song**. Ballistic Coefficient Estimation with Gaussian Process Particle Filter, 18th International Conference on Control, Automation and Systems (ICCAS 2018), Oct. 17–20, PyeongChang, GangWon, Korea

[10] **Kyungwoo Song**, Wonsung Lee, Il-Chul Moon. Neural Ideal Point Estimation Network. In The Thirty-Second AAAI Conference on Artificial Intelligence (AAAI 2018). New Orleans, Feb. 2-Feb. 7

[11] Il-Chul Moon, **Kyungwoo Song**, Sang-Hyeon Kim, and Han-Lim Choi. State Prediction of High-speed Ballistic Vehicles with Gaussian Process, International Journal of Control, Automation and Systems (IJCAS), 2018

[12] Wonsung Lee, **Kyungwoo Song**, Il-Chul Moon. Augmented Variational Autoencoders for Collaborative Filtering with Auxiliary Information. In The ACM International Conference on Information and Knowledge Management (CIKM 2017)

[13] **Kyungwoo Song**, Sang-Hyeon Kim, Jinhyung Tak, Han-Lim Choi, Il-Chul Moon. Data-driven ballistic coefficient learning for future state prediction of high-speed vehicles. In Information Fusion (FUSION), 2016 19th International Conference on (pp. 17-24). IEEE.

[14] **Kyungwoo Song**, Do-Hyeong Kim, Su-Jin Shin, Il-Chul Moon. Identifying the evolution of disasters and responses with network-text analysis. In Systems, Man and Cybernetics (SMC), 2014 IEEE International Conference (pp. 664-671).

Preprints

[1] **Kyungwoo Song**, Yohan Jung, Dongjun Kim, Il-Chul Moon. Implicit Kernel Attention.

[2] Hyemi Kim, Seungjae Shin, JoonHo Jang, **Kyungwoo Song**, Weonyoung Joo, Wanmo Kang, Il-Chul Moon. Counterfactual Fairness with Disentangled Causal Effect Variational Autoencoder.

[3] Yohan Jung, **Kyungwoo Song**, Jinkyoo Park. Approximate Inference for Spectral Mixture Kernel.

[4] Dongjun Kim, Weonyoung Joo, Seungjae Shin, **Kyungwoo Song**, Il-Chul Moon. Adversarial Likelihood-Free Inference on Black-Box Generator.

[5] Yooon-Yeong Kim, **Kyungwoo Song**, JoonHo Jang, Il-chul Moon. Look-Ahead Acquisition with Informative Mixup for Active Learning.

TEACHING

KAIST, Korea

- Teaching Assistant, Data Structure and Algorithm Introduction I & II, KOOC (May 2019 - Jul. 2019)
- Teaching Assistant, Introduction to Artificial Intelligence and Machine Learning, KOOC (Apr. 2018 - Jun. 2018)
- Teaching Assistant, Applied Data Structures, and Algorithms, ISysE (Sep. 2017 - Dec. 2017)
- Research Mentor, Undergraduate Research Program (URP) for Personalized music recommendation with temporal matrix factorization (Jun. 2015 - Dec. 2015)
- Teaching Assistant, Applications of AI/DM Technology, ISysE (Mar. 2016 - Jun. 2016)
- Teaching Assistant, Applied Data Structures, and Algorithms, ISysE (Sep. 2015 - Dec. 2015)

Hanbat National University, Korea

- Part-Time Lecturer, Operations Management, Business Administration (Mar. 2017 - Jun. 2017)

Daejeon Youth Edu-Culture Center, Korea

- Volunteer Lecturer for Mathematics (Feb. 2013 - Dec. 2014)

WORKING EXPERIENCE

NAVER Clova, Korea *Oct. 2018 - Dec. 2018*
Visiting Researcher, Diverse Dialogue Generation

AWARDS & SCHOLARSHIPS

KAKAO Research Supporting Program, 2018
AAAI Student Scholar, 2018
SMC Student Travel Grant, 2014
2nd prize, The competition of Ministry of Knowledge Economy, Korea, 2010
Excellence Prize, The competition of Ministry of Environment, Korea, 2010

INVITED TALKS

Australian National University, Australia (Aug. 2020)
KAKAO, Korea (May 2018)
NAVER, Korea (Apr. 2018)

SERVICES

Program Committee Member: IJCAI 2020, ACL 2020, CMOT 2020, EMNLP 2020, NeurIPS 2020, AAAI 2021

PROJECT

Vision-based semiconductor quality inspection *Apr. 2020 - Sep. 2020*
funded by semiconductor company in South Korea

Classification for customer's financial transaction history *Nov. 2019 - Mar. 2020*
funded by commercial bank in South Korea

Vision-based tire quality inspection *Mar. 2019 - Oct. 2019*
funded by tire company in South Korea

Multi-language, multi-source, polymorphic data analysis *Jul. 2016 - Dec. 2017*
funded by National Research Foundation (NRF)

Estimation and prediction of high-speed vehicle trajectory *Mar. 2015 - Jun. 2016*
funded by Government Agency

Identifying "strategic research areas" for basic research *Jan. 2013 - Aug. 2013*
funded by National Research Foundation (NRF)

Measuring the social impacts of publicly funded R&D *Feb. 2013 - Jun. 2013*
funded by Korea Institute of Science & Technology Evaluation and Planning

Strategy for maximizing online customer's satisfaction *Jan. 2012 - Feb. 2012*
funded by KT

Strategy for enlarging the number of 30∼40's women customer *Nov. 2010 - Dec. 2010*
funded by Ticket Monster