Dong Kyu Cho

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Education

Yonsei University Mar. 2021 – Present
Master of Arts in Statistics and Data Science *Seoul, South Korea*
Total GPA **4.00/4.00**

Yonsei University Mar. 2015 – Feb 2021
B.E. in Industrial Engineering & B.A. in Applied Statistics *Seoul, South Korea*
Total GPA 3.90/4.00 **(Ranked 1st)**
· Math & Statistics GPA (upper-division) **4.00/4.00**
· Industrial Engineering GPA (upper-division) **4.00/4.00**

Republic of Korea Army Feb. 2017 – Nov. 2018
Military Service

Awards and Honors

Best Paper (1st) at 2022 Brain Korea Academic Conference, Yonsei University Jul. 2022
Best Paper (1st) at 2022 Summer Academic Conference, Korean Statistical Society Jul. 2022
Graduated with High Honors (Ranked 1st), Yonsei University Feb. 2021
Highest Honors, Yonsei University Fall 2019
Honors, Yonsei University Fall 2015, 2016, Spring 2019, 2020
Brain Korea 21 Scholarships, National Research Foundation of Korea 2021, 2022
Academic Research Fellowship, Yonsei University 2021, 2022
Honors Scholarships, Yonsei University Fall 2015 – Fall 2020

Research Experience

Yonsei University Mar. 2021 – Present
Research Assistant

- Advised by Dr. Jaewoo Park (Yonsei University) and Dr. Chang Won (Cincinnati University)
- Proposed a novel variational inference method based on deep learning, temperature annealing and surjective transformations with applications to compartment model calibration, addressing known challenges in variational inference and other alternative approaches
- Culminated in a paper, an oral presentation at the 2022 Brain Korea Academic Conference, and a poster presentation at 2022 Korean Statistical Society Summer Conference

Yonsei University Aug. 2021 – Present
Research Assistant

- Advised by Dr. Jaewoo Park (Yonsei University), Dr. Chang Won (Cincinnati University) and Dr. Yongjoo Cho (Konkuk University)
- Compared methods for casual inference regarding time series data with application to clinical data
- Applied deep learning-based models for casual inference tasks using time series Bayesian neural networks

Yonsei University Apr. 2022 – Present
Research Assistant

- Advised by Dr. Sangwook Kang (Yonsei University)
- Worked with the National Institute of Environmental Research in Korea to implement grid algorithms for the Geostationary Environmental Monitoring Spectrometer (GEMS)
- Implemented known algorithms with considerations for computational speed and uncertainty quantification

Yonsei University Aug. 2021 – Dec. 2021
Undergraduate Researcher

- Advised by Dr. Wonyong Shin (Yonsei University)
- Conducted a study on techniques for deep learning-based network embeddings, and methods for combining deep generative models and explainable AI

Yonsei University Aug. 2019 – Dec. 2019

Undergraduate Researcher

- Advised by Dr. Woojoo Kim (Yonsei University)
- Explored methods to improve Korean natural language processing, contributed to research in topic modeling for patent mining (funded by LG Display), and helped collect Yonsei Cyber Education Community (YSCEC) data
- Proposed a LDA topic model based business model using card transaction data and social network, culminated an oral presentation at 2019 Big Contest

Presentations

Dongkyu Cho, Won Chang, Jaewoo Park "Fast Compartment Model Calibration using Annealed and Transformed Varational Inference". 2022 Brain Korea Academic Conference. June 30, 2022. Yonsei University, Seoul, Republic of Korea (Oral), **Best Paper Awards**

Dongkyu Cho, Won Chang, Jaewoo Park "Fast Compartment Model Calibration using Annealed and Transformed Varational Inference". The Korean Statistical Society Summer Academic Conference 2022 June 24, 2022. Seoul National University, Seoul, Republic of Korea (Poster), **Best Paper Awards**

Dongkyu Cho, Won Chang, Jaewoo Park "Fast Compartment Model Calibration using Annealed and Transformed Varational Inference". 2022 Korean Data Mining Society Summer Conference. August 27, 2022. Yonsei University, Seoul, Republic of Korea (Oral)

Dongkyu Cho, "Deep Generative Models and Statisticians". Brain Korea Academic Seminar. June 15, 2022. Yonsei University, Seoul, Republic of Korea (Oral)

Teaching Experience

Yonsei University Mar. 2021 – Present

Teaching Assistant

- Teaching Assistant to Dr. Jaewoo Park (Taught in English)
- **Deep Learning** : Covered concepts of deep learning theories and models, including convolutional neural networks, recurrent neural networks, and reinforcement learning with Keras implementation
- **Bayesian Methods** : Covered concepts of advanced Bayesian methods, including hierarchical Bayesian models, advanced Markov chain Monte Carlo and Gibbs sampling

Yonsei University Sep. 2021 – Dec. 2021

Teaching Assistant

- Teaching Assistant to Dr. Mijung Kim (Taught in English)
- **Statistical Methods** : Covered basic concepts of statistical testings and inferences including analysis of variance, chi-square tests and two sample tests

Skills / Other Info

Programming Languages: **Python**, **R**, SQL, Java
Tools: **PyTorch**, **Rcpp**, Keras, Tensorflow, Pandas, NumPy, Matplotlib
Languages: Korean (Native), English (Fluent)
GRE: V 161 (88%), Q 170 (96%), W 4.0 (57%)
TOEFL: 108/120 (30/28/24/26, R/L/S/W)

References

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Won Chang
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University of Cincinnati
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