Seohyeon Cha

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Education

Korea Advanced Institute of Science and Technology (KAIST) Mar. 2022 - present
M.S. Candidate, School of Electrical Engineering GPA: 4.17/4.3
Advisor: Prof. Joonhyuk Kang

Korea Advanced Institute of Science and Technology (KAIST) Mar. 2017 - Feb. 2022
B.S., School of Electrical Engineering Overall GPA : 4.03/4.3
Summa Cum Laude Major GPA: 4.10/4.3

Research Interest

Keywords: Machine Learning, Uncertainty Estimation, Model Calibration, Conformal Prediction

Publications

Ongoing Research

[O1] Efficient Calibration of Bayesian Models with Conformal Prediction
- Control credible region via Bayesian temperature for calibration purpose
- Adaptive Bayesian conformal prediction from Bayesian models with different temperatures

[O2] Revisiting Conformal Prediction in Graph Neural Networks

Preprint

[P1] Honggu Kang, **Seohyeon Cha**[2], Jinwoo Shin, Jongmyeong Lee, and Joonhyuk Kang, "NeFL: Nested Federated Learning for Heterogeneous Clients," under-review in NeurIPS 2023. [link]

Conference

[C1] **Seohyeon Cha**[1], Sanghyuk Kim, Jiwan Seo, and Joonhyuk Kang, "Intelligent Surface-aided Transmitarray Antenna in mmWave Communication System with Historical Channel Observation," in *IEEE International Conference on Consumer Electronics-Asia (ICCE-Asia)*, 2022. [link]

Research Experiences

Advanced Radio Technology Lab (ARTLab) Sep. 2021 - present
Project: Development of spectrum protection and cognitive radio technology
- *Sponsor: Electronics and Telecommunications Research Institute (ETRI)*
- Contribution : Deep learning based spectrum sensing

Undergraduate Research Program (URP) Spring 2021
Project: Study on data valuation and learning algorithm using data value in neural networks
- *Advisor: Prof. Hyewon Chung*
- Contribution : Analysis on memorization and forgetting events of data

Honors and Awards

National Excellence Scholarship (Natural Sciences and Engineering) 2018 - 2020
Korean Governmental Scholarship (Full Tuition) 2017 - 2018

KAIST Support Scholarship (Graduate) 2022 - present
Government-Funded TA Scholarship 2022 - present

Teaching Experience

Research Assistant, KAIST Spring, Summer 2023
B.S. Individual Study

Teaching Assistant, KAIST Fall 2022
EE205 Data Structures and Algorithms for Electrical Engineering

Academic Courses

EE528 Engineering Random Process
EE534 Pattern Recognition
EE623 Information Theory
EE837 Advances in Convolutional Neural Networks
AI501 Machine Learning for AI
AI599 Deep learning and real-world applications
AI706 Bayesian Nonparametric Methods for Machine Learning

Other Activities

Counseling Assistant for undergraduate/graduate students, KAIST Fall 2022
Tutoring for freshman students, KAIST 2018 - 2019
MAS101 Calculus 1
MAS102 Calculus 2
Internship at SK hynix Jul. 2019 - Aug. 2019

Language and Skills

- Native in Korean, Proficient in English
- TOEFL: R30/L29/S23/W23
- Proficient in Python, Pytorch, MATLAB

Last updated: August 5, 2023