Han-seul Cho

Updated June 25, 2021

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Research interests

Any topics that applies mathematics beyond mathematics.
For example, AI/ML, deep learning, nonconvex optimization, large batch training, human-AI interaction, natural language processing(want to learn more later), statistical inference & prediction, (biomedical) imaging, etc.

Education

KAIST Daejeon, Republic of Korea
Undergratuate Mar. 2017 – Feb. 2022(expected)
Major in Mathematical Sciences
Minor in Computer Sciences
Credits Completed: 153
GPA: 4.05/4.3

University of Twente Enschede, Netherlands
Exchange Student Feb. 2020 – Jul. 2020
Major in Applied Mathematics
Grade: 9/10

Incheon Science High School Incheon, Republic of Korea
Early Graduation Mar. 2015 – Feb. 2017

Research experience

KAIST 2021 Post-AI research project May 2021 – Dec. 2021(Expected)
Project name: "Research on 'AI-augmented Organizations' of Collaborative Decision Making and Learning"
Principal Investigator: Sangyoon Yi (SOIL Lab, Grad. School of Future Strategy, KAIST)
Collaborative Researcher & Advisor: Jinkyoo Park (Systems Intelligence Lab, Industrial & Systems Eng., KAIST)

Algorithmic Intelligence Laboratory
Individual Study Mar. 2021 – Jun. 2021
Advisor: Jinwoo Shin (Grad. School of AI / Electrical Eng., KAIST)
Studied about optimizers for 'large batch training' such as LARS and LAMB; (informally) proposed two optimizers 'LGC' and 'LaRSPaG' combining the idea(s) of LARS and Gradient Clipping
Refer to the following Github link.

Bio Imaging, Signal Processing and Learning Lab
Individual Study Sep. 2020 – Feb. 2021
Advisor: Jong-chul Ye (Bio and Brain Eng., KAIST)
Assignment: Semantic Segmentation of Kidney Tumor with U-Net (KiTS19 Challenge); test dice of kidney has reached ≥ 0.93

Statistics Lab
Individual Study Jul. 2020 – Aug. 2020
Advisor: Yeon-seung Chung (Mathematics, KAIST)
Read and self-studied the book '*An Introduction to Statistical Learning* (Springer)' (Chap. 1–5)

Clinical Neuroscience & Development Lab
Pre-URP Program (as a high school student) Jan. 2016
Advisor: Bum-seok Jeong (Medical Sci. and. Eng., KAIST)
Participated in a research project "Finding reliable biomarkers related with distraction of voluntary attention"

Honors and scholarships

Dean's List (The School of Freshman, KAIST) Fall, 2017
The National Scholarship for Science and Engineering (Korea Student Aid Foundation) 2017 – 2020

Skills

Programming
Experienced: Python, Pytorch, Matlab.
Have ever used once: C, C++, R, Scalar