Jang-Hyun Kim

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Education

Seoul National University

M.S. & Ph.D. in Computer Science — Current

B.S. in Mathematical Science, *Summa Cum Laude* — Feb.2019

- 2 years mandatory military service

Seoul Science High School — Feb.2012

Experience

Visiting Scholar, Center for Data Science, New York University — Feb.2024-Aug.2024

- Targeted cause discovery research (Advisor: Kyunghyun Cho)

Research Intern, NAVER AI Lab — Aug.2018-Jan.2019

- Speech enhancement research (Demo) (Advisor: Jaejun Yoo)

Undergraduate Intern, Statistical Multiscale Analysis Lab, Seoul Nat'l University — Dec.2017-Aug.2018

- Riemannian manifold learning (TPAMI21) (Advisor: Hee-Seok Oh)

Data Anaysis Intern, True Balance, India Mobile App Service — Jan.2017-Apr.2017

- Advertisement analysis with SQL, Spark, Python

Publications

- C: conference, J: journal, P: preprint, *: equal contribution, †: equal supervision

[P3] Targeted Cause Discovery with Data-Driven Learning
Jang-Hyun Kim, Claudia Skok Gibbs, Sangdoo Yun, Hyun Oh Song, Kyunghyun Cho
arXiv, 2024

[C6] Compressed Context Memory For Online Language Model Interaction
Jang-Hyun Kim, Junyoung Yeom, Sangdoo Yun†, Hyun Oh Song†
ICLR, 2024

[C5] Neural Relation Graph: A Unified Framework for Identifying Label Noise and Outlier Data
Jang-Hyun Kim, Sangdoo Yun, Hyun Oh Song
NeurIPS, 2023

[C4] Dataset Condensation via Efficient Synthetic-Data Parameterization
Jang-Hyun Kim, Jinuk Kim, Seong Joon Oh, Sangdoo Yun, Hwanjun Song, Joonhyun Jeong, Jung-Woo Ha, Hyun Oh Song
ICML, 2022

[J2] *spherepc*: An R Package for Dimension Reduction on a Sphere
Jongmin Lee, **Jang-Hyun Kim**, Hee-Seok Oh
The R Journal, 2022

[C3] Uncertainty-Based Offline Reinforcement Learning with Diversified Q-ensemble
Gaon An*, Seungyong Moon*, **Jang-Hyun Kim**, Hyun Oh Song
NeurIPS, 2021

[C2] Co-Mixup: Saliency Guided Joint Mixup with Supermodular Diversity
Jang-Hyun Kim, Wonho Choo, Hosan Jeong, Hyun Oh Song
ICLR (**Oral**), 2021

[J1] Spherical Principal Curves
Jongmin Lee*, **Jang-Hyun Kim***, Hee-Seok Oh
TPAMI, 2021

[C1] Puzzle Mix: Exploiting Saliency and Local Statistics for Optimal Mixup
Jang-Hyun Kim, Wonho Choo, Hyun Oh Song
ICML, 2020

[P2] Phase-Aware Speech Enhancement with Deep Complex U-Net
Hyeong-Seok Choi, **Jang-Hyun Kim**, Jaesung Huh, Adrian Kim, Jung-Woo Ha, Kyogu Lee
arXiv, 2019

[P1] Multi-Domain Processing via Hybrid Denoising Networks for Speech Enhancement
Jang-Hyun Kim*, Jaejun Yoo*, Sanghyuk Chun, Adrian Kim, Jung-Woo Ha
arXiv, 2018

Patents

Image Recognition Method and Apparatus, Image Preprocessing Apparatus, and Method of Training Neural Network
- **Jang-Hyun Kim**, Hyun Oh Song, Hosan Jeong, Wonho Choo, Seungyong Moon, Gaon An
  Granted US patent, No. 11921818B2, 2024

Open Sources

Google's Speaker Verification ★350+ (GitHub, Kaggle)
Puzzle Mix ★150+ (GitHub)
Co-Mixup ★100+ (GitHub)
Efficient Dataset Condensation ★100+ (GitHub)
Compressed Context Memory ★50+ (GitHub)
spherepc (CRAN, Document)

Honors and Awards

Qualcomm Innovation Fellowship Korea [C2]	2021
Microsoft Research Asia Fellowship Nomination Award	2021
Youlchon AI Star Scholarship	2021
First Prize, Samsung Electronics & SNU Excellent Paper Award [C2]	2021
Ph.D. Scholarship granted by Korea Foundation for Advanced Studies (KFAS)	2020-2024
Honorable Mention, Korean Statistics Society Poster Paper Award [J1]	2019
Silver Medal, Korean Contest of Mathematics for University Students	2017
Presidential Science Scholarship	2012-2019
Gold Medal, Korean Mathematical Olympiad (KMO)	2009

Professional Services

Reviewing Activity	NeurIPS 2021-, ICLR 2022-, ICML 2023-, TMLR 2023-, JMIR 2024
Program Committee	NeurIPS Workshop, "Interpolation Regularizers and Beyond", 2022
	NeurIPS Workshop, "ImageNet: Past, Present, and Future", 2021

Talks

LG Tech Talk	"A Unified Framework for Identifying Label Noise and Outlier Data", Aug.2023
SNU AI Retreat	"Co-Mixup: Saliency Guided Joint Mixup with Supermodular Diversity", Apr.2021
SNU AI Retreat	"Puzzle Mix: Exploiting Saliency and Local Statistics for Optimal Mixup", Jul.2020

Teaching

SNU, Undergraduate Research Program	Research Mentor, Fall 2021
SNU, Machine Learning	Teaching Assistant, Fall 2021
SNU, Introduction To Deep Learning	Teaching Assistant, Spring 2020

References

Hyun Oh Song	Associate Professor, Computer Science and Engineering, SNU (hyunoh@snu.ac.kr)
Sangdoo Yun	Research Director, Naver AI Lab (sangdoo.yun@navercorp.com)
Kyunghyun Cho	Professor, Computer Science and Center for Data Science, NYU (kyunghyun.cho@nyu.edu)