

# Jang-Hyun Kim

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## Education

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### 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

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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

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• 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<sup>†</sup>, Hyun Oh Song<sup>†</sup>  
*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

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- 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

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- Google’s Speaker Verification ★350+ ([GitHub](#), [Kaggle](#))  
 Puzzle Mix ★150+ ([GitHub](#))  
 Co-Mixup ★100+ ([GitHub](#))  
 Efficient Dataset Condensation ★100+ ([GitHub](#))  
 Compressed Context Memory ★45+ ([GitHub](#))  
*spherepc* ([CRAN](#), [Document](#))

## Honors and Awards

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

## Professional Services

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- 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

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- 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

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- 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

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