Updated in May, 2026

# Jihu Lee

## Contact Information

Room 305, Building 25
1, Gwanak-ro, Gwanak-gu, Seoul, Republic of Korea
Department of Statistics, Seoul National University
(+82) 10-4612-1859
rieky0426@snu.ac.kr
Google scholar ORCID GitHub

## Research interests

Reliable AI:

- Uncertainty Quantification (Bayesian Inference)
- Adversarial Robustness
- Algorithmic Fairness

Deep Generative Models and Multimodal Models

## Education

Mar 2020 ~ Aug 2026 **Seoul National University**, Seoul, Republic of sKorea
*Ph.D candidate*, Statistics
Advisor: Prof. Yongdai Kim

Mar 2015 ~ Feb 2020 **Seoul National University**, Seoul, Republic of Korea
*Bachelor of Science*, Statistics

Mar 2012 ~ Feb 2015 **Seoul Science High School**, Seoul, Republic of Korea

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## Work Experience

Jan 2019 ~Feb 2019 — Research internship, **Seoul National University**
Study of neural networks; Computational experiments with fashion-MNIST dataset.

June 2017 ~July 2017 — Internship for algorithm development, **Visual Camp**
Development of a core algorithm for eye-tracking on VR devices based on mathematical formulations.

## Funded Research Projects

2020~2025 — **Study of sparse methods for machine learning**
National Research Foundation of Korea

2022~ — **Trustworthy Artificial Intelligence**
National Research Foundation of Korea

2022~ — **Development and study of AI technologies to inexpensively conform to evolving policy on ethics (Fair AI)**
Institute for Information & communication Technology Planning & evaluation (IITP)

2023~ — **Seoul National University LAMP program**
National Research Foundation of Korea

2024~ — **Establishment of a blockchain-based maritime data security platform utilized by the civial, navy, and coast guard.**
Korea Institute of Marine Science & Technology Promotion

2025~ — **Developing fair AI algorithms and interpretability techniques for recruitment systems**
SK Hynix

2025~ — **Study of Bayesian analysis for deep neural networks**
National Research Foundation of Korea

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## Industry-sponsored Projects

2020~2021 **Find undiscovered insights with NAVER cloud databox**
Naver

2022~2024 **Development of AI accounting system**
DAEU C&A, KPMG

## Publications

2026 **Transferring Domain-Invariant and Adversarially Robust Feature Learning for Unsupervised Domain Adaptation**
Hyunsoo Yoon, **Jihu Lee** and Dongyoon Yang
Applied Soft Computing

2026 **A Fair Bayesian Inference through Matched Gibbs Posterior**
**Jihu Lee**, Kunwoong Kim, Sehyun Park, Insung Kong, Dongyoon Yang and Yongdai Kim
International Conference on Learning Representations (ICLR 2026)

2026 **Bayesian Neural Networks for Functional ANOVA Model**
Seokhun Park, Choeun Kim, **Jihu Lee**, Yunseop Shin, Insung Kong and Yongdai Kim
International Conference on Learning Representations (ICLR 2026)

2026 **Doubly-Regressing Approach for Subgroup Fairness**
Kunwoong Kim, Kyungseon Lee, **Jihu Lee**, Dongyoon Yang and Yongdai Kim
International Conference on Learning Representations (ICLR 2026)

2026 **Fair Model-based Clustering**
Jinwon Park, Kunwoong Kim, **Jihu Lee** and Yongdai Kim
Annual AAAI Conference on Artificial Intelligence (AAAI 2026)
*ORAL*

2025 **Fair Clustering via Alignment**
Kunwoong Kim, **Jihu Lee**, Sangchul Park and Yongdai Kim
International Conference on Machine Learning (ICML 2025)

2025 **TAROT: Towards Essentially Domain-Invariant Robustness with Theoretical Justification**
Dongyoon Yang*, **Jihu Lee*** and Yongdai Kim (*Equal contribution)
The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2025)

2024 **Posterior Sampling on a Fairness-Constrained Space by Pseudo-Labels**
**Jihu Lee**, Insung Kong and Yongdai Kim
*The 11th Joint Conference of Korean Artificial Intelligence Association*

2023 **R-DANN : Generalization Bound and Algorithm of Adversarially Robust Domain Adversarial Neural Network**
Dongyoon Yang, **Jihu Lee**, Chanmoo Park and Yongdai Kim
*The 9th Joint Conference of Korean Artificial Intelligence Association*

2022 **F-ANoB: Fair ANOVA Boosting**
Seokhoon Park, **Jihu Lee**, Kyungseon Lee and Yongdai Kim
*The 7th Joint Conference of Korean Artificial Intelligence Association*

## Submitted Papers

**Uncertainty-adaptive Feedback Guidance for Improved Image Generation with Diffusion Models**
**Jihu Lee***, Yunseop Shin* and Yongdai Kim

**Fair Bayesian Model-Based Clustering**
**Jihu Lee***, Kunwoong Kim*, Hankyo Jeong and Yongdai Kim (*Equal contribution)

**Approximating the Posterior Distribution of Bayesian Deep Neural Networks by a Deep Neural Network**
Sehyun Park, Yunseop Shin, Kunwoong Kim, **Jihu Lee** and Yongdai Kim

**Simple Baseline for Robust Fairness: Implicit Bias Perspective**
Dongyoon Yang, **Jihu Lee** and Hyunsoo Yoon

**How Do Robust Domain-Invariant Features Transfer to Unseen Domains?**
Dongyoon Yang, **Jihu Lee**, Changhoon Kim and Taesup Kim

## Teaching Experience

Fall 2020 Teaching assistant, Statistics, **Seoul National University**

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| Spring 2021 | Teaching assistant, Statistical Experiments, **Seoul National University** |
| Fall 2021 | Teaching assistant, Statistical Experiments, **Seoul National University** |
| Spring 2022 | Teaching assistant, Mathematical Statistics, **Seoul National University** |
| Fall 2022 | Teaching assistant, Probability Theory 2, **Seoul National University** |
| Spring 2023 | Teaching assistant, Probability Theory 1, **Seoul National University** |
| Spring 2023 | Teaching assistant, KDB-SNU AI, **Korea Development Bank & Seoul National University** |
| Fall 2023 | Teaching assistant, Sampling Design and Survey Practice, **Seoul National University** |
| Spring 2025 | Teaching assistant, Samsung $DS^2$, **Samsung Electronics & Seoul National University** |

## Awards and Honors

2021 **Outstanding Teaching Assistant in Statistics**
Seoul National University

## Programming Languages

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| Proficient in | Python, Julia, R |
| Familiar with | Scala, C, Java, SQL, PHP |
| Exposure to | C++, CUDA |

## Additional Information

2020~ Managed lab servers with hands-on experience in hardware assembly, Linux system administration, NVIDIA GPU and CUDA configuration, and server security (including firewall setup, SSH access control). Also experienced in environment and service setup using Anaconda, Docker and JupyterHub.