SEUNGEUN LEE

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http://duneag2.github.io

EDUCATION

New York University   New York, USA
Ph.D. Student in Computer Science   Sep 2025 - Present
- Advisor: Prof. Julia Stoyanovich

Korea University   Seoul, Korea
M.S. in Mathematics (Applied Mathematics)   Mar 2024 - Aug 2025
- Advisor: Prof. Seungsang Oh
- GPA: 4.00/4.00 (Integrated B.S./M.S. Program)

Korea University   Seoul, Korea
B.S. in Mathematics, B.E. in Computer Science and Engineering   Mar 2020 - Feb 2024
- GPA: 3.76/4.00, Great Honor (Magna Cum Laude)

PUBLICATIONS

1. **S. Lee**, S. Choi, T. Kang, S. Chung, S. Han, J. Seo, S. Oh, and I.-Y. Kwak, *iWAX: Interpretable Wav2vec-AASIST-XGBoost Framework for Voice Spoofing Detection,* Scientific Reports.

2. S. Chung, H. Kim, **S. Lee**, S. Lee, and S. Oh, *Honeycomb-lattice monomer-dimer mixtures,* Journal of Statistical Physics.

3. J. Kim*, **S. Lee***, S.M. Ahn, G. Choi, B.-K. Je, B.J. Park, Y. Cho, and S. Oh, *Deep Learning Model Using Cross-sequence Learning to Identify Orbital Fractures in Radiographs of Patients Under 20 Years,* Frontiers in Bioengineering and Biotechnology. (*: equal contribution)

4. S. Han*, J. Seo*, S. Choi, T. Kang, S. Chung, **S. Lee**, S. Park, S. Oh, and I.-Y. Kwak, *Enhancing voice spoofing detection in noisy environments using frequency feature masking augmentation,* Engineering Science and Technology, an International Journal. (*: equal contribution)

5. **S. Lee***, N. Jeong*, J. Je*, and S.-Y. Lee, *BCCP: An MLOps Framework for Self-cleansing Real-Time Data Noise via Bayesian Cut-off-based Closest Pair Sampling,* IEEE International Conference on Artificial Intelligence x Data & Knowledge Engineering 2024. (*: equal contribution)

6. S. Choi, S. Chung, **S. Lee**, S. Han, T. Kang, J. Seo, I.-Y. Kwak, and S. Oh, *TB-ResNet: Bridging the gap from TDNN to ResNet in Speaker Verification with Temporal-Bottleneck Enhancement,* ICASSP 2024.

7. **S. Lee***, Y. Cho*, Y. Ji, M. Jeon, A. Kim, B.-J. Ham*, and Y.Y. Joo*, Multimodal integration of neuroimaging and genetic data for the diagnosis of mood disorders based on computer vision models, Journal of Psychiatric Research. (*: equal contribution)

8. **S. Lee**, S.H. Hwang, S. Oh, B.J. Park, and Y. Cho, *Multi-input Vision Transformer with Similarity Matching,* MICCAI PRIME Workshop 2023.

PREPRINTS

1. **S. Lee**, K. Lee, S. Bae, S. Lee, S. Lee, I.-Y. Kwak, and S. Oh, *Table2Image: A Lightweight Framework for Enhanced Tabular Data Classification with Image Transformation*

2. **S. Lee**, G. Yang, and Y. Cho, *CurvUNet: Curvature-Informed UNet for Enhanced Medical Image Segmentation*

3. **S. Lee**, S. Chung, S. Lee, and S. Oh, *Counting perfect matchings in torus grid graphs*

| RESEARCH EXPERIENCE | **Center for Responsible AI, New York University** | New York, USA |
| | *Graduate Research Fellow* | Sep 2025 - Present |

- Advisor: Prof. Julia Stoyanovich

| | **Department of Mathematics, Korea University** | Seoul, Korea |
| | *Graduate Research Assistant* | Apr 2023 - Aug 2025 |

- Advisor: Prof. Seungsang Oh
- Designed interpretable tabular data classification and voice spoofing detection

| | **Department of Radiology, Korea University Anam Hospital** | Seoul, Korea |
| | *Undergraduate Research Intern* | Apr 2022 - Mar 2023 |

- Advisor: Prof. Yongwon Cho
- Proposed interpretable models for pediatric imaging and geometry-aware segmentation

| | **Institute of Data Science, Korea University** | Seoul, Korea |
| | *Undergraduate Research Intern* | Nov 2021 - Mar 2022 |

- Advisor: Prof. Yoonjung Yoonie Joo and Prof. Yongwon Cho
- Designed multimodal fusion models using medical imaging and genomic data for psychiatric disorder diagnosis

| WORK EXPERIENCE | **SCIEN** | Ulsan, Korea |
| | *Data Scientist & Engineer Intern* | Jul 2024 - Aug 2024 |

- Developed pill efficacy ML, DL models with Handok Pharmaceuticals

| TEACHING EXPERIENCE | **Department of Mathematics, Korea University** | Seoul, Korea |
| | *Teaching Assistant* | Mar 2024 - Aug 2025 |

- Topology I (MATH 333) & Deep Learning Math (MATH 391)

| | **Korea Human Resource Development Institute for Health & Welfare** | Seoul, Korea |
| | *Teaching Assistant* | Aug 2022 - Nov 2022 |

- Guided a medical AI project on CT-free orthopedic diagnosis using DRR and X-ray segmentation
- Evaluated final competition entries

| TECHNICAL SERVICES | **Photorage** | Seoul, Korea |
| | *Technical advisor* | Sep 2023 |

- Provided technical guidance on image generation and recommendation systems for a photo storage app at a startup

AWARDS AND HONORS	• 3rd place, Industrial Capstone Design Competition, Korea University (KU)	Dec 2023
	• 2nd place, Professional Training Course for Medical AI	Nov 2022
	• 4th place, Datathon, National Information Society Agency (NIA)	Nov 2021
	• 3rd place, Seoul Market Analysis Competition, NIA	Nov 2021
	• Scholarship for Integrated B.S./M.S. Program Students, KU	Mar 2024 - Aug 2025
	• Teaching & Research Assistant Scholarship, KU	Mar 2024 - Aug 2025
	• Scholarship for Veritas Program (REU, College of Informatics, KU)	Fall 2023
	• Scholarship for Veritas Program (REU, College of Science, KU)	2023
	• Samsung SDS Scholarship	2020 - 2023
	• Dean's List (College of Science, KU)	Fall 2020
	• Semester High Honors, KU	2020 - 2023

LANGUAGES   Korean (native), English (fluent), Spanish (intermediate), Chinese (intermediate)