

# SangEun Lee

AI Researcher · ETRI, South Korea

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## Research Interests

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Spatial intelligence; multimodal reasoning; 3D generative AI. Building AI systems that understand, reason about, and generate complex 3D environments from multimodal observations — with prior work in visual emotion reasoning via vision-language models.

## Education

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### M.Sc. in Applied Artificial Intelligence

Sungkyunkwan University, Seoul, South Korea

Advisor: Prof. Eunil Park

Sept. 2021 – Feb. 2023

Major GPA 4.25 / 4.5

### B.S. in Applied Artificial Intelligence

Sungkyunkwan University, Seoul, South Korea

*Summa Cum Laude*

Mar. 2018 – Aug. 2021

Major GPA 4.33 / 4.5, Cum. 4.24 / 4.5

## Experience

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### AI Researcher · ETRI

Research on 3D object generation, structure-aware 3D representation learning, and image generation with diffusion models.

Jan. 2023 – Present

### Research Assistant · KT R&D Center

Improvement of question-answering systems via contrastive learning.

Jul. 2022 – Aug. 2022

## Awards & Honors

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- **2nd Place**, ABAW VA Prediction Challenge @ CVPR 2026
- **1st Place**, ABAW VA Prediction Challenge @ ICCV 2025
- **Outstanding Presentation Paper Award**, Korea Computer Congress, 2023
- **Honorable Mention**, S-HERO Practical Problem-Solving Competition, Sungkyunkwan University, 2021
- **2nd Prize**, In-school Software Development with AI Contest, Sungkyunkwan University, 2021
- **3rd Prize**, Bookathon Contest, Sungkyunkwan University, 2020
- **2nd Prize**, Lifestyle Improvement App Development Contest, Sungkyunkwan University, 2020
- *Summa Cum Laude*, Sungkyunkwan University, 2021

## Publications

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† *Equal contribution.*   \* *Corresponding author.*

### Conference

- [C1] **S. Lee**, W. Chae, H. Yoo, K. Kim, N. Kim, H. Kim. “Refining Image-to-3D Foundation Models via Geometric Supervision for Industrial Plant Reconstruction.” *AI4RWC, CVPR Workshop*, 2026.
- [C2] Y. Lee†, **S. Lee**†, J. Cha, E. Park\*. “SAGE: Stage-Adaptive Guided Reliability Modeling for Continuous Valence-Arousal Estimation.” *ABAW, CVPR Workshop*, 2026.
- [C3] **S. Lee**, Y. Lee, E. Park\*, W. Chae. “MASP: Multi-Aspect Guided Emotion Reasoning with Soft Prompt Tuning in Vision-Language Models.” *AAAI*, 2026.
- [C4] Y. Lee, **S. Lee**, C. Park, J. Cha, J. Yang, E. Park. “BOVIS: Bias-Mitigated Object-Enhanced Visual Emotion Analysis.” *CIKM*, 2025.
- [C5] Y. Lee, **S. Lee**, C. Park, J. Cha, E. Park\*. “Dynamic Temporal Gating Networks for Cross-Modal Valence-Arousal Estimation.” *ABAW, ICCV Workshop*, 2025.
- [C6] **S. Lee**, Y. Lee, E. Park\*. “EmoVLM-KD: Fusing Distilled Expertise with Vision-Language Models for Visual Emotion Analysis.” *ABAW, CVPR Workshop*, 2025.

- [C7] **S. Lee**, W. Chae, H. Kim. “Retrieve-and-generate: Image-to-3D framework with mesh retrieval and texture generation.” *ICT Convergence*, 2024.
- [C8] H. Yu, **S. Lee**, B. Yeo, J. Han, E. Park\*, S. Pack. “Towards a Lightweight Object Detection through Model Pruning Approaches.” *ICT Convergence*, 2024.
- [C9] **S. Lee**, W. Chae, H. Kim. “Generating Webtoon Scene Images with Latent Diffusion Models.” *MITA*, 2023.
- [C10] **S. Lee**<sup>†</sup>, S. Oh<sup>†</sup>, M. Kim, E. Park\*. “Measuring Embedded Human-like Biases in Face Recognition Models.” *AIBSD Workshop, AAAI*, 2022.

### Journal

- [J1] **S. Lee**, S. Kim, Y. Lee, J. Yang, E. Park\*. “Enhancing Dimensional Image Emotion Detection with a Low-resource Dataset via Two-stage Training.” *IEEE Trans. on Cognitive and Developmental Systems*, 2025.
- [J2] **S. Lee**, S. Kim, Y. Chu, J. Choi, E. Park\*. “EAE-GAN: Emotion-Aware Emoji GAN for Computational Modeling of Diverse and Fine-Grained Human Emotions.” *IEEE Trans. on Computational Social Systems*, 11(3):3862–3872, 2024.
- [J3] **S. Lee**, C. Ryu, E. Park\*. “OSANet: Object Semantic Attention Network for Visual Sentiment Analysis.” *IEEE Trans. on Multimedia*, 25:7139–7148, 2023.
- [J4] **S. Lee**, D. Jeong, E. Park\*. “MultiEmo: Multi-task framework for emoji prediction.” *Knowledge-Based Systems*, 2022.
- [J5] J. Kim, J. Aum, **S. Lee**, Y. Jang\*, E. Park\*, D. Choi. “FibVID: Comprehensive fake news diffusion dataset during the COVID-19 period.” *Telematics and Informatics*, 64:101688, 2021.
- [J6] W. Choi, J. Kim, **S. Lee**, E. Park\*. “Smart home and Internet of Things: A bibliometric study.” *Journal of Cleaner Production*, 301:126908, 2021.

## Teaching Experience

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**Undergraduate Teaching Assistant · Sungkyunkwan University** Fall 2021  
 “Problem Solving and Algorithm” (freshmen mandatory course).

**Undergraduate Teaching Assistant · Sungkyunkwan University** Spring 2021  
 “Computational Thinking and Coding” (freshmen mandatory course).

## Skills

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**Languages:** Korean (native), English (TOEIC Speaking AL)  
**Tools & Programming Languages:** Python, Kotlin, C, R, L<sup>A</sup>T<sub>E</sub>X, Git, Markdown  
**Machine Learning Frameworks:** PyTorch, TensorFlow, Keras, scikit-learn