

Sooyoung Kim

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<https://sooyoungkim451.github.io/>

Research Interests

Computer Vision, Generative AI
Real-World Understanding for Long-Horizon Video Generation
Physical, Semantic, and Spatial Reasoning for 3D/4D Scene Generation

Education

2025 – Present	Rutgers University , NJ, US Ph.D. Student in Computer Science Advisor: Vladimir Pavlovic
2021 – 2023	Seoul National University , Seoul, South Korea M.S. in Brain and Cognitive Sciences Advisor: Jiook Cha
2017 – 2021	Ewha Womans University , Seoul, South Korea B.S. in Computer Science and Engineering

Publications

CONFERENCE PROCEEDINGS

- C3 **Repurposing Image Diffusion Models for Training-Free Music Style Transfer on Mel-spectrograms**
Wang, H.* , Kwon, J.* , **Kim, S.***, Yoo, S.†, Lin, Y.†, & Cha, J.†
ICIP 2026.
- C2 **Revisiting Your Memory: Reconstruction of Affect-Contextualized Memory via EEG-guided Audiovisual Generation**
Kwon, J.* , Wang, H.* , Lee, J.* , **Kim, S.***, Yoo, S., Lin, Y.†, & Cha, J.†
ACM MM CogMAEC, 2025. Oral Presentation.
- C1 **AesFA: An Aesthetic Feature-Aware Arbitrary Neural Style Transfer**
Kwon, J.* , **Kim, S.***, Yoo, S.†, Lin, Y.†, & Cha, J.†
AAAI, 2024.

PREPRINTS & PUBLICATIONS IN PROGRESS

- P3 **Attention Guidance Enables A Composable Brain-To-Text Decoding**
Kim, S.*, Kwon, J.* , Park, M.* , Yoo, S., Lin, Y., & Cha, J.
- P2 **An Instance-Adaptive Photorealistic Style Optimization for Relightful Image Harmonization**
Kwon, J.* , **Kim, S.***, Kim, S., Shin, J., Yoo, S., Lin, Y., & Cha, J.
- P1 **Macro2Micro: A Rapid and Precise Cross-modal Magnetic Resonance Imaging Synthesis using Multi-scale Structural Brain Similarity**
Kim, S.*, Kwon, J.* , Kwon, J.* , Bae S., Yoo, S.†, Lin, Y.†, & Cha, J.†
ArXiv, 2024.

BOOKS

- B1 **Designing Software Creation: Using UML Diagrams**
Park, H.* , Kim, Y.* , Kim, Y.* , Ji, H.* , Oh, J., Nam, H., Lee, S., **Kim, S.**, Choi, S., Oh, Y., Huh, J., Song, D.
Textbook, 2023.

* denotes equal contribution

† denotes corresponding author

Experience

Sep 2023 – Aug 2025	Connectome Lab , Seoul National University Researcher (Advised by Dr. Jiook Cha)
Sep 2024 – Dec 2024	Planningo , Seoul, South Korea AI Researcher
Jan 2021 – Dec 2021	Connectome Lab, Seoul National University Server Administrator
Jun 2020 – Feb 2021	Connectome Lab, Seoul National University Researcher Intern (Advised by Dr. Jiook Cha)
Jul 2019 – Feb 2020	Natural Language Process & Bioinformatics Lab, Ewha Womans University Researcher Intern (Advised by Dr. Hyunseok Park)

Teaching Experience

Sep 2025 – May 2026	TA – CS210: Data Management for Data Science Rutgers University
Mar 2020 – Jun 2020	Tutoring – CS20497: Computer Algorithms Ewha Womans University
Nov 2019	Programming Contest for Female High School Students Ewha Womans University & Huawei Korea

Honors and Awards

Jun 2026	The 2025-2026 Excellent TA Award, Rutgers University Department of Computer Science
Oct 2024	Grand Prize at AI x Art Hackathon (\$ 700 USD)
2021-2022	BrainKorea21 Four Scholarship (\$ 13,600 USD)
Jan 2020 – Sep 2020	2020 4 th Seoul Innovation Challenge (\$ 15,000 USD)
Mar 2019 – Dec 2019	The 9 th Ewha Festival for Business Plan (\$ 1,500 USD)
2018 – 2020	EWHA Scholarship (\$ 1,600 USD)
2017	EWHA Merit-based Scholarship (full tuition) Awarded to the top 10% of students upon admission

Academic Services

Conference Reviewer	CVPR 2026, ICIP 2026, NeurIPS 2026
Journal Reviewer	Pattern Recognition, Computers in Industry, IEEE Computational Intelligence Magazine