

Sumin Kim

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Research Interest

Video Understanding • Representation Learning • Multimodal Learning
Video Summarization • Highlight Detection • Video Object Segmentation • Moment Retrieval

Education

Seoul National University, Seoul, South Korea Mar 2025 – Present

Ph.D. Student in Data Science

- Advisor: Prof. Joonseok Lee ([link](#))
- Visual Information Processing Lab. ([link](#))

Sungkyunkwan University, Seoul, South Korea Mar 2020 – Feb 2025

B.S. in Applied Artificial Intelligence

- GPA: 4.23/4.50 (Magna Cum Laude)

Publications

*: Equal Contribution †: Corresponding Author

CONFERENCES

- C2 TripleSumm: Adaptive Triple-Modality Fusion for Video Summarization**
Sumin Kim^{*}, Hyemin Jeong^{*}, Mingu Kang^{*}, Yejin Kim, Yoori Oh[†], and Joonseok Lee[†]
International Conference on Learning Representations (ICLR), 2026
[Paper](#) | [arXiv](#) | [Website](#) | [Code](#) | [Dataset](#)
- C1 SummDiff: Generative Modeling of Video Summarization with Diffusion**
Kwanseok Kim^{*}, Jaehoon Hahm^{*}, **Sumin Kim**, Jinhwan Sul, Byunghak Kim, and Joonseok Lee[†]
International Conference on Computer Vision (ICCV), 2025
Highlight Presentation (263/11,239 = 2.34%)
[Paper](#) | [arXiv](#) | [Website](#) | [Code](#)

PREPRINTS

- P2 Do Not Stop at Frame Scoring: Enabling End-to-end Training for Video Summarization**
Sumin Kim^{*}, Mingu Kang^{*}, Minjun Kim, Sungmin Yang, U Kang, Jaegul Choo[†], Yoori Oh[†], and Joonseok Lee[†]
Under review, 2026
- P1 From Matching to Reasoning: Query-Aware Long Video Summarization**
Mingu Kang, **Sumin Kim**, Hyunjin Lee, Sungmin Yang, Yoori Oh[†], and Joonseok Lee[†]
Under review, 2026

Patents

Video Summarization Method and Computer Apparatus for the Same May 2026

Korean patent application filed May 24, 2026; application number pending

Inventors: **Sumin Kim**, Hyemin Jeong, Mingu Kang, Yejin Kim, Yoori Oh, and Joonseok Lee

Method for Generating Video Summaries and Computer Apparatus Therefor Apr 2026

Korean Patent Application No. 10-2026-0063327, filed Apr. 8, 2026

Inventors: Kwanseok Kim, Jaehoon Hahm, **Sumin Kim**, Jinhwan Sul, Byunghak Kim, and Joonseok Lee

Work Experience

- Korea Institute of Science and Technology**, Seoul, South Korea Feb 2023 – Jun 2023
Center for Artificial Intelligence, AI & Robotics Institute
Undergraduate Researcher
- Investigated parameter-efficient model adaptation methods for temporal action localization, focusing on reducing trainable parameters while preserving localization performance.
 - Conducted experiments on video action localization benchmarks and analyzed the trade-off between adaptation efficiency and temporal localization accuracy.

Projects

- Multi-modal Fusion for Video Summarization @NRF Grant** Sep 2025 – Present
- Selected for the 2025 Basic Science Research Program funded by the National Research Foundation of Korea. Leading a research project to develop a robust video summarization framework by fusing multimodal data.
- Generative AI for Visual Effects @Samsung Electronics** Jun 2025 – Dec 2025
- Designed an SDXL-based visual-effects generation pipeline using LoRA fine-tuning, balancing style transfer strength with object-level semantic and geometric preservation.

Fellowships and Scholarships

- NRF Graduate Research Encouragement Grant** Sep 2025
National Research Foundation of Korea (NRF)
- Yulchon AI Research Fellowship** Aug 2025
Yulchon Foundation
- Presidential Science Scholarship**, Engineering Mar 2023 – Feb 2025
Korea Student Aid Foundation
National merit-based scholarship; selected as one of 60 national scholars
- Student Success Leader Scholarship** 2022, 2023, 2024
Sungkyunkwan University
- Excellence Performance Scholarship** Jan 2024
AI Convergence and Open Sharing System
- University Innovation Scholarship** 2021, 2023
Sungkyunkwan University
- Academic Excellence Scholarship** Dec 2023
College of Computing and Informatics, Sungkyunkwan University

Honors and Awards

- Excellence Award**, Industry-Academic-Linked AI Hackathon Aug 2024
AI Convergence and Open Sharing System
- Dean's List Award**, High Scholastic Achievement Dec 2023
College of Computing and Informatics, Sungkyunkwan University
- SK Telecom Special Award**, Seoul Central AI Competition Nov 2023
Sungkyunkwan Univ., Hanyang Univ., Kyung Hee Univ., Univ. of Seoul, Konkuk Univ., Sejong Univ., Inha Univ., Catholic Univ.
- Special Award**, Uni-DTHON (AI & Data Track) Nov 2023
Seoul Nat'l Univ., KAIST, POSTECH, Yonsei Univ., Korea Univ., Sungkyunkwan Univ., Chung-Ang Univ., Sookmyung Women's Univ.
- Grand Award**, Capstone Design and AI Hackathon Competition Oct 2023
The Korean Association of Computer Education
- Excellence Award**, KOPIS Big Data Analysis Contest Sep 2023
Ministry of Culture, Sports and Tourism
- Excellence Award**, AI Service Design Hackathon Aug 2023
Samsung Electronics

Top Award , Co-Deep Learning Project Competition <i>Sungkyunkwan University</i>	Jan 2023
President's List Award , University-wide Undergraduate Honor <i>Sungkyunkwan University</i> Selected as one of the top 20 students university-wide	Dec 2022
Excellence Award , Web Development Competition Using AI <i>College of Computing and Informatics, Sungkyunkwan University</i>	Aug 2022
Top Award , Web Development Competition Using AI <i>College of Computing and Informatics, Sungkyunkwan University</i>	Aug 2021

Invited Talks and Lectures

Student Success Alumni Talk , Sungkyunkwan University <i>"Where Do Good Research Ideas Come From?"</i>	May 2026
The 6th HAYAKU Conference , Yonsei University <i>"Why Do We Pursue Graduate Studies?"</i>	Mar 2026
The 5th HAYAKU Conference , Korea University <i>"Multimodal Video Summarization Research"</i>	Sep 2025
Student Success Alumni Talk , Sungkyunkwan University <i>"Reflections on Video Research"</i>	May 2025

Teaching

Teaching Assistant , Machine Learning for Visual Understanding – SNU	Spring 2026
Teaching Assistant , Core Computing: Thinking with Computers – SNU	Spring 2026
Teaching Assistant , Programming for Data Analysis – SNU	Winter 2026
Teaching Assistant , Core Computing: Thinking with Computers – SNU	Fall 2025
Teaching Assistant , Basic Computing: First Adventures in Computing – SNU	Summer 2025
Teaching Assistant , Computational Thinking and Software Coding – SKKU	Spring 2024
Teaching Assistant , Artificial Intelligence Basics & Uses – SKKU	Fall 2022

Academic Services

Reviewer

- Conference on Neural Information Processing Systems (NeurIPS) 2026
- International Conference on Machine Learning (ICML) 2026

Activities

Founding President , AI Academic Student Society "brAIIn" – SKKU	Sep 2024 – Feb 2025
President , School of Global Convergence Student Council "cresc." – SKKU	Nov 2021 – Nov 2022
Member , Central Student Steering Committee – SKKU	Nov 2021 – Nov 2022
President , School of Global Convergence Ambassadors "Alimi" – SKKU	Sep 2021 – Aug 2022
Visiting Student , Intensive Programming and Startup (CS496) – KAIST	Dec 2021 – Feb 2022