Minkuk Kim

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CONTACT INFORMATION

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EDUCATION

Kyung Hee University   Aug. 2022 - Current
M.S. in Department of Artificial Intelligence   *Yongin, Republic of Korea*

· Advisor: Prof. Seong-Tae Kim

Kyung Hee University   Mar. 2016 - Aug. 2022
B.S. in Department of Computer Science and Engineering   *Yongin, Republic of Korea*

· Advisor: Prof. Seong-Tae Kim

RESEARCH KEYWORDS

Computer Vision and Natural Language Processing

Multi-Modal AI
Dense Video Captioning

Memory Augmented AI
Memory Retrieval, Memory-based Video Object Segmentation

RESEARCH EXPERIENCE

Long-form Dense Video Captioning   Nov. 2023 - Current

· We are working toward submission to the EMNLP 2024 conference.
· We explore video localization and description for long-form video that can be considered with context.

Dense Video Captioning   June. 2023 - Current

<u>M. K. Kim</u>, H. B. Kim, J. Y. Moon, J. W. Choi[†], and S. T. Kim[†]. "Do You Remember? Dense Video Captioning with Cross-Modal Memory Retrieval." ***CVPR 2024*** , accepted.

· We propose a new dense video captioning model with cross-modal memory retrieval.
· We propose a novel structure that can learn cross-modal correlation.

Video Object Segmentation   June. 2022 - June. 2023

E . K. Cho, <u>M. K. Kim</u>, H. I. Kim, J. Y. Moon and S. T. Kim[†]. "Exploiting recollection effects for memory-based video object segmentation." ***Image and Vision Computing***, published

· We propose a novel strategy for constructing and managing memory for video object segmentation.
· We proposed the method can be used as a plug-in-play manner.

PUBLICATIONS

<u>International Conference Papers</u>

[1] <u>M. K. Kim</u>, H. B. Kim, J. Y. Moon, J. W. Choi[†] and S. T. Kim[†]

"Do You Remember? Dense Video Captioning with Cross-Modal Memory Retrieval."
Computer Vision and Pattern Recognition (CVPR), Seattle, U.S.A., Jun. 2024.

<u>International Journal Papers</u>

[1] E. K. Cho, <u>M. K. Kim,</u> H. I. Kim, J. Y. Moon and S. T. Kim[†]

"Exploiting recollection effects for memory-based video object segmentation."
Image and Vision Computing, 140, 2023.

PATENTS

[1] <u>M. K. Kim</u>, E . K. Cho, J. U. Kim and S. T. Kim

"Deep neural network uncertainty prediction device and method."
Korean Patent Application (10-2023-0110754), Aug. 23, 2023.

RESEARCH PROJECTS

Video spatio-temporal localization for long-term memory analysis   2023 - Current
Participating Researcher   *Funding:* **ETRI**

EXPERIENCES

GPU Server System Administrator   2023 - Current
· Management of Cluster servers that has 370 GPUs with DeepOps and Slurm.

Teaching Assistant   2022 - 2023
· Web and Python Programming (SWCON104)

SKILLS

Language Skills
· Korean(native), English

Programming Skills
· Python, C/C++, Shell script, Linux

Deep Learning Libraries
· PyTorch, TensorFlow

REFEREES

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