

Dr. Dahun Kim

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Research Interest	<ul style="list-style-type: none">• Deep Learning, Computer Vision Visual perception, vision and language, video learning	
Research Experience	<ul style="list-style-type: none">• Google DeepMind, MTV, CA Research Scientist• Google Brain, MTV, CA Research Scientist• Google AI, Virtual (with LA, CA) Research Intern: on “video mask transformer”• Google Brain, Virtual (with MTV, CA) Research Intern: on “detect everything”• Adobe Research, San Jose, CA, Research Intern: on “video panoptic segmentation”	<p>Apr.2023 - Present</p> <p>Jul.2022 - Apr.2023</p> <p>May.2021 - Jan.2022</p> <p>Jun.2020 - Nov.2020</p> <p>Jun.2019 - Sep.2019</p>
Education	<ul style="list-style-type: none">• Ph.D. in Electrical Engineering, KAIST, Advisor: Prof. In So Kweon Thesis: “Learning Dense Pixel Features for Video Processing and Understanding”• M.S. in Electrical Engineering, KAIST, Advisor: Prof. In So Kweon Thesis: “Reducing Human Supervision in Supervised Learning”• B.S. in Electrical Engineering, KAIST,• Korea Science Academy of KAIST (high school)	<p>Mar.2018 - Feb.2022</p> <p>Mar.2016 - Feb.2018</p> <p>Feb.2012 - Feb.2016</p> <p>Mar.2009 - Feb.2012</p>
Academic Services	<ul style="list-style-type: none">• Area Chair in CVPR 2024, NeurIPS 2023, CVPR 2023• CVPR [20, 21, 22], NeurIPS [20, 21], ECCV [20], ICCV [19, 21], ICLR [21], AAAI [20, 21, 22]• TPAMI, TNNLS, TIP, EuroGraphics	
Publications	<ul style="list-style-type: none">• Preprints: R. Li, Dahun Kim, W. Kuo “RECLIP: Resource-efficient CLIP by Training with Small Images”, in Preprint W. Kuo†, A. Piergiovanni†, Dahun Kim*, X. Luo*, B. Caine, W. Li, A. Ogale, L. Zhou, A. Dai, Z. Chen, C. Cui, A. Angelova “MaMMUT: A Simple Vision-Encoder Text-Decoder Architecture for Multimodal Tasks”, in TMLR 2023: Transactions on Machine Learning Research I. Shin, Dahun Kim, Q. Yu, J. Xie, H.S. Kim, B. Green, I.S. Kweon, K.J. Yoon, L.C. Chen “Video-kMaX: A Simple Unified Approach for Online and Near-Online Video Panoptic Segmentation”, in CVPRW 2023: ‘Transformers for Vision’ Workshop	

• **Peer-Reviewed Conferences and Journals - Selected:**

019. **Dahun Kim**, A. Angelova, W. Kuo
“Region-Aware Pretraining for Open-Vocabulary Object Detection with Vision Transformers”,
in **CVPR 2023 Highlight**, Vancouver, Canada (Acceptance: 2.5%)
018. Y. Kwon, **Dahun Kim**, D. Ceylan, H. Fuchs
“Neural Image-based Avatars: Generalizable Radiance Fields for Human Avatar Modeling”,
in **ICLR 2023**, Kigali, Rwanda
017. **Dahun Kim**, S. Woo, J.Y. Lee, I.S. Kweon
“Dense Pixel-level Interpretation of Dynamic Scenes with Video Panoptic Segmentation”,
in **TIP 2022: IEEE Trans. on Image Processing**, IF=10.856
016. **Dahun Kim**, J. Xie, H. Wang, S. Qiao, H.S. Kim, H. Adam, I.S. Kweon, L.C. Chen
“TubeFormer-DeepLab: video mask transformer”,
in **CVPR 2022**, New Orleans, USA
015. Q. Yu, H. Wang, **Dahun Kim**, S. Qiao, M. Collins, Y. Zhu, H. Adam, A. Yuille, L.C. Chen
“CMT-DeepLab: dynamic clustering mask transformers for panoptic segmentation”,
in **CVPR 2022 (Oral)**, New Orleans, USA
014. **Dahun Kim**, T.Y. Lin, A. Angelova, I. S. Kweon, W. Kuo
“Learning open-world object proposals without learning to classify”,
in **RA-L: IEEE Robotics and Automation Letters** and **ICRA 2022**, Philadelphia, USA
013. Y. Kwon, **Dahun Kim**, D. Ceylan, H. Fuchs
“Neural Human Performer: learning generalizable radiance fields for human performance rendering”,
in **NeurIPS 2021 (Spotlight)**, Virtual (Acceptance: < 3.0%)
012. S. Woo, **Dahun Kim**, J.Y. Lee, I. S. Kweon,
“Learning to associate every segment for video panoptic segmentation”.
in **CVPR 2021**, Virtual
011. Y. Kwon, S. Petrangeli, **Dahun Kim**, H. Wang, V. Swaminathan, H. Fuchs,
“Rotationally-Temporally Consistent Novel View Synthesis for Human Performance Video”,
in **ECCV 2020 (Spotlight)**, Virtual (Acceptance: 265/5025 \approx 5.3%)
010. **Dahun Kim**, S. Woo, J.Y. Lee, I.S. Kweon,
“Video panoptic segmentation”,
in **CVPR 2020 (Oral)**, Virtual (Acceptance: 335/6656 \approx 5.0%)
009. **Dahun Kim***, S. Woo*, J.Y. Lee, I.S. Kweon,
“Recurrent temporal aggregation framework for deep video inpainting”,
in **TPAMI 2020: IEEE Trans. on Pattern Analysis and Machine Intelligence**, IF=17.730
008. Y. Jung, **Dahun Kim**, S. Woo, K. Kim, S. Kim, I.S. Kweon,
“Hide-and-Tell: Learning to bridge photo streams for visual storytelling”,
in **AAAI 2020**, New York, USA (Acceptance: 1591/7737 \approx 20.6%)
007. **Dahun Kim***, S. Woo*, J.Y. Lee, I.S. Kweon,
“Deep video inpainting”,
in **CVPR 2019**, Long Beach, USA (Acceptance: 1294/5160 \approx 25.2%)

006. **Dahun Kim***, S. Woo*, J.Y. Lee, I.S. Kweon,
 “Deep blind video decaptioning by temporal aggregation and recurrence”,
 in **CVPR 2019**, Long Beach, USA (Acceptance: 1294/5160 \approx 25.2%)
005. **Dahun Kim**, D. Cho, I.S. Kweon,
 “Self-supervised video representation learning with space-time cubic puzzles”,
 in **AAAI 2019 (Oral)**, Honolulu, USA (Acceptance: 459/7095 \approx 6.5%)
004. Y. Jung, D. Cho, **Dahun Kim**, S. Woo, I.S. Kweon,
 “Discriminative feature learning for unsupervised video summarization”,
 in **AAAI 2019 (Oral)**, Honolulu, USA (Acceptance: 459/7095 \approx 6.5%)
003. S. Woo*, **Dahun Kim***, D. Cho, I.S. Kweon,
 “LinkNet: relational embedding for scene graph”,
 in **NeurIPS 2018**, Montreal, Canada (Acceptance: 1011/4856 \approx 20.8%)
002. **Dahun Kim**, D. Cho, D. Yoo, I.S. Kweon,
 “Learning image representations by completing damaged jigsaw puzzles”,
 in **WACV 2018 (Oral)**, Lake Tahoe, USA
001. **Dahun Kim**, D. Cho, D. Yoo, I.S. Kweon,
 “Two-phase learning for weakly supervised object localization”,
 in **ICCV 2017**, Venice, Italy (Acceptance: 621/2143 \approx 28.9%)

• **Other publications:**

- Y. Kwon, S. Petrangeli, **Dahun Kim**, H. Wang, V. Swaminathan, H. Fuchs
 “Tailor Me: An Editing Network for Fashion Attribute Shape Manipulation”.
 in **WACV 2022**
- M. Weber, H. Wang, S. Qiao, J. Xie, M. D. Collins, Y. Zhu, L. Yuan, **Dahun Kim**, Q. Yu,
 D. Cremers, L. Leal-Taixe, A.L. Yuille, F. Schroff, H. Adam, L.C. Chen
 “DeepLab2: a TensorFlow library for deep labeling”. Technical Report, **arXiv 2021**
- M. Kim, S. Woo, **Dahun Kim**, I. S. Kweon,
 “The Devil is in the Boundary: Exploiting Boundary Representation for Basis-based Instance
 Segmentation”. in **WACV 2021 (Oral)**
- S. Woo, **Dahun Kim**, J.Y. Lee, I.S. Kweon
 “Global Context and Geometric Priors for Effective Non-Local Self-Attention”.
 in **BMVC 2021**
- Y. Kwon, S. Petrangeli, **Dahun Kim**, H. Wang, H. Fuchs, V. Swaminathan,
 “Rotationally-Consistent Novel View Synthesis for Humans”,
 in **ACM MM 2020**, Virtual (Acceptance: 472/1698 \approx 27.8%)
- S. Woo, **Dahun Kim**, K. Park, J.Y. Lee, I.S. Kweon,
 “Align-and-Attend Network for Globally and Locally Coherent Video Inpainting”,
 in **BMVC 2020** (Acceptance: 195/670 \approx 29.1%)
- K. Park, S. Woo, **Dahun Kim**, D. Cho, I.S. Kweon,
 “Preserving Semantic and Temporal Consistency for Unpaired Video-to-Video Translation”,
 in **ACM MM 2019**, Nice, France (Acceptance: 252/936 \approx 26.9%)
- D. Cho, Y. Jung, F. Rameau, **Dahun Kim**, S. Woo, I.S. Kweon,
 “Video Retargeting: Trade-off between Content Preservation and Spatio-temporal Consistency”,
 in **ACM MM 2019**, Nice, France (Acceptance: 252/936 \approx 26.9%)

Awards and Honors	• Best Ph.D. Thesis Award, EE, KAIST	Apr.2022
	• Bronze Award, 28th HumanTech Paper Award, Samsung Electronics Co., Ltd. (\$5,000)	Feb.2022
	• Qualcomm Innovation Award (Korea) 2021	Nov.2021
	• Outstanding Reviewers Award, CVPR 2021	Aug.2021
	• Outstanding Reviewers Award, ECCV 2020	Aug.2020
	• Microsoft Research Asia (MSRA) Ph.D Fellowship 2019 Winner (\$10,000)	Oct.2019
	• 1-st Place Award in ChaLearnLAP 2018 Inpainting Challenge Track 2: video decaptioning (ECCV2018 Challenge)	Sep.2018
	• Global Ph.D Fellowship, National Research Foundation of Korea (National Minister fellowship – \approx \$60,000 + 3-year full scholarship)	Mar.2018 - Feb.2021
	• KAIST-Samsung Industry-University Cooperation, Best Paper Award (\$3,000)	Jul.2020
	• Bronze Award, 27th HumanTech Paper Award, Samsung Electronics Co., Ltd. (\$5,000)	Feb.2021
	• Honorable Mention, 25th HumanTech Paper Award, Samsung Electronics Co., Ltd. (\$2,000)	Feb.2019
	• Lab Student Representative (over 30 members),	Sep.2019 - Jul.2020
	• Bronze Prize, Best Paper Award, 31th IPIU	Feb.2019
	• International Computer Vision Summer School (ICVSS), Sicily, Italy	Jul.2018