Dahun Kim

Ph.D. Candidate, Robotics and Computer Vision Lab.
Korea Advanced Institute of Science and Technology (KAIST)

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Research Interests

• **Deep Learning;** Minimal human supervision: Self-supervised learning, Weakly-supervised learning.
• **Computer Vision;** Recognition, Image/Video understanding (pixel level, high level), Image/Video Processing, Representation learning

Research Experiences

• **Adobe Research**, San Jose, CA, Jun.2019 - Sep.2019
Research Intern, Deep Learning Group, Creative Intelligence Lab

• **KAIST**, Daejeon, Korea, Mar.2016 - Present
Research Assistant, Robotics and Computer Vision Lab,

Education

Ph.D. in Electrical Engineering, **KAIST,** Mar.2018 - Present
Advisor: Prof. In So Kweon

M.S. in Electrical Engineering, **KAIST,** Mar.2016 - Feb.2018
Thesis: "Reducing Human Supervision in Supervised Learning"
Advisor: Prof. In So Kweon

B.S. in Electrical Engineering, **KAIST,** Feb.2012 - Feb.2016
Received Full Scholarship

Publications

• **Peer-Reviewed Conferences:**

C1. **Dahun Kim**, Sanghyun Woo, Joon-Young Lee, In So Kweon,
"Video Panoptic Segmentation",
in **CVPR 2020 (Oral)**, Seattle, USA (Acceptance: 1470/6656 ≈ 22.1%)

C2. Yunjae Jung, **Dahun Kim**, Sanghyun Woo, Kyunsu Kim, Sungjin Kim, In So Kweon,
"Hide-and-Tell: Learning to Bridge Photo Streams for Visual Storytelling",
in **AAAI 2020**, New York, USA (Acceptance: 1591/7737 ≈ 20.6%)

C3. Kwanyong Park, Sanghyun Woo, **Dahun Kim**, Donghyeon Cho, In So Kweon,
"Preserving Semantic and Temporal Consistency for Unpaired Video-to-Video Translation",
in ACM **MM 2019**, Nice, France (Acceptance: 252/936 ≈ 20.6%)

C4. Donghyeon Cho, Yunjae Jung, Francois Rameau, **Dahun Kim**, Sanghyun Woo, In So Kweon,
"Video Retargeting: Trade-off between Content Preservation and Spatio-temporal Consistency",
in ACM **MM 2019**, Nice, France (Acceptance: 252/936 ≈ 20.6%)

C5. **Dahun Kim***, Sanghyun Woo*, Joon-Young Lee, In So Kweon,
"Deep Video Inpainting",
in **CVPR 2019**, Long Beach, USA (Acceptance: 1294/5160 ≈ 25.2%)

C6. **Dahun Kim***, Sanghyun Woo*, Joon-Young Lee, In So Kweon,
"Deep Blind Video Decaptioning by Temporal Aggregation and Recurrence",
in **CVPR 2019**, Long Beach, USA (Acceptance: 1294/5160 ≈ 25.2%)

C7. **Dahun Kim**, Donghyeon Cho, In So Kweon,
"Self-Supervised Video Representation Learning with Space-Time Cubic Puzzles",
in **AAAI 2019 (Oral)**, Honolulu, USA (Acceptance:459/7095 $\approx$ 6.5%)

C8. Yunjae Jung, Donghyeon Cho, **Dahun Kim**, Sanghyun Woo, In So Kweon,
"Discriminative Feature Learning for Unsupervised Video Summarization",
in **AAAI 2019 (Oral)**, Honolulu, USA (Acceptance: 459/7095 $\approx$ 6.5%)

C9. Sanghyun Woo*, **Dahun Kim***, Donghyeon Cho, In So Kweon,
"LinkNet: Relational Embedding for Scene Graph",
in **NeurIPS 2018**, Montreal, Canada (Acceptance: 1011/4856 $\approx$ 20.8%)

C10. **Dahun Kim**, Donghyeon Cho, Donggeun Yoo, In So Kweon,
"Learning Image Representations by Completing Damaged Jigsaw Puzzles",
in **WACV 2018 (Oral)**, Lake Tahoe, USA

C11. **Dahun Kim**, Donghyeon Cho, Donggeun Yoo, In So Kweon,
"Two-Phase Learning for Weakly Supervised Object Localization",
in **ICCV 2017**, Venice, Italy (Acceptance: 621/2143 $\approx$ 28.9%)

• **Peer-Reviewed Journals:**

J1. **Dahun Kim***, Sanghyun Woo*, Joon-Young Lee, In So Kweon,
"Recurrent Temporal Aggregation Framework for Deep Video Inpainting",
in *IEEE Trans. on Pattern Analysis and Machine Intelligence* (**TPAMI**), IF=17.730

Reviewer Experiences

- European Conf. on Computer Vision (ECCV) 2020
- IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2020
- Association for the Advancement of Artificial Intelligence (AAAI) 2020
- IEEE International Conf. on Computer Vision (ICCV) 2019
- IEEE Trans. on Neural Networks and Learning Systems (TNNLS)

Awards and Honors

- Microsoft Research Asia (MSRA) Ph.D Fellowship 2019 Winner ($10,000) Oct.2019
- Global Ph.D Fellowship, National Research Foundation of Korea Aug.2018 - Present
(about $60K + 3-Year Full scholarship)
- 1st Place Award in ChaLearnLAP 2018 Inpainting Challenge Track 2 Sep.2018
– video decaptioning (ECCV2018 Challenge)
- International Computer Vision Summer School (ICVSS), Sicily, Italy Jul.2018
- Honorable Mention, 24th HumanTech Paper Award, Feb.2018
Samsung Electronics Co., Ltd. ($2,000)
- Lab Student Representative (over 30 members), Sep.2018 - Present

Teaching Experiences

Teaching assistant at EE dept., KAIST
EE305 Introduction to electronics lab. (Spring, 2017)
EE209 Programming Structures for Electrical Engineering (Fall, 2017)
EE898 Advanced Topics in Deep Learning for Robotics and Vision (Spring, 2018)
EE735 Computer Vision (Fall, 2019)

Computer Skills	**Languages:** Python, Matlab, Lua **Libraries:** Pytorch, Tensorflow, Caffe
Languages	English(fluent), Korean(native)
References	**Prof. In So Kweon** School of Electrical Engineering, KAIST Email: iskweon77@kaist.ac.kr Homepage: http://rcv.kaist.ac.kr Relationship: M.S. - Ph.D. advisor in KAIST