

Hyeongmin Lucas Lee

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🎓 <https://scholar.google.co.kr/citations?user=eEB3K6gAAAAJ>

📺 <https://www.youtube.com/channel/UCz14hRj69FfGsl7ftF0D3ig>

🔄 <https://github.com/HyeongminLEE>

🌐 <https://hyeongminlee.github.io>

Research Interest

- Computer Vision & Deep Learning
- Computational Photography
- Video Processing & Editing
- Video Frame Interpolation
- Video Stabilization
- Image & Video Super-Resolution
- Image & Video Compression

Education

Mar.2018 – Present **INTEGRATED M.S./PH.D. Course in Electrical and Electronic Engineering**
Yonsei University, Seoul, Korea

- Image and Video Pattern Recognition LAB
- Supervised by Prof. Sangyoun Lee
- GPA: 4.24/4.3

Mar.2014 – Feb.2018 **B.S. in Electrical and Electronic Engineering**
Yonsei University, Seoul, Korea

- Graduated **Cum Laude**
- GPA: 3.96/4.3

Work Experience

May.2021 - Present **Adobe Research**
Research Intern

- Working with Dr. Simon Niklaus and Dr. Oliver Wang
- Research on Video Stabilization

Publications

- 2022 [1] Hanbin Son, Taeoh Kim, **Hyeongmin Lee**, and Sangyoun Lee, "Enhanced Standard Compatible Image Compression Framework based on Auxiliary Codec Networks," *IEEE Transactions on Image Processing (TIP)*, 2022.
- 2021 [2] Dogyoon Lee, Jaeha Lee, Junhyeop Lee, **Hyeongmin Lee**, Minhyeok Lee, Sungmin Woo, and Sangyoun Lee, "Regularization Strategy for Point Cloud via Rigidly Mixed Sample," *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
- 2020 [3] Taeoh Kim*, **Hyeongmin Lee***, MyeongAh Cho*, Hoseong Lee, Dong heon Cho, and Sangyoun Lee (*Equal Contribution), "Learning Temporally Invariant and Localizable Features via Data Augmentation for Video Recognition," *European Conference on Computer Vision Workshops (ECCVW) (Oral)*, 2020.
- [4] **Hyeongmin Lee**, Taeoh Kim, Tae-young Chung, Daehyun Pak, Yuseok Ban, and Sangyoun Lee, "AdaCoF: Adaptive Collaboration of Flows for Video Frame Interpolation," *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
- [5] Sangjin Lee, **Hyeongmin Lee**, Taeoh Kim, and Sangyoun Lee, "Extrapolative-Interpolative Cycle-Consistency Learning for Video Frame Extrapolation," *IEEE International Conference on Image Processing (ICIP)*, 2020.
- 2019 [6] MyeongAh Cho, Tae-young Chung, **Hyeongmin Lee**, and Sangyoun Lee, "N-RPN : Hard Example Learning for Region Proposal Networks," *IEEE International Conference on Image Processing (ICIP)*, 2019.
- [7] Taeoh Kim, **Hyeongmin Lee**, Hanbin Son, and Sangyoun Lee, "SF-CNN : A Fast Compression Artifacts Removal via Spatial-to-Frequency Convolutional Neural Networks," *IEEE International Conference on Image Processing (ICIP)*, 2019.
- 2018 [8] **Hyeongmin Lee**, Taeoh Kim, Eungyeol Song, and Sangyoun Lee, "CollaboNet: Collaboration of Generative Models by Unsupervised Classification," *IEEE International Conference on Image Processing (ICIP)*, 2018.
- [9] Eungyeol Song, **Hyeongmin Lee**, Jaesung Choi, and Sangyoun Lee, "AHD: Thermal Image-based Adaptive Hand Detection for Enhanced Tracking System," *IEEE Access*, 2018.
- 2018 [8] **Hyeongmin Lee**, Taeoh Kim, Eungyeol Song, and Sangyoun Lee, "CollaboNet: Collaboration of Generative Models by Unsupervised Classification," *IEEE International Conference on Image Processing (ICIP)*, 2018.
- [9] Eungyeol Song, **Hyeongmin Lee**, Jaesung Choi, and Sangyoun Lee, "AHD: Thermal Image-based Adaptive Hand Detection for Enhanced Tracking System," *IEEE Access*, 2018.

Patents

- 2021 **Apparatus for compressing image, learning apparatus and method thereof**
Korea Patent no.10-2245682, Apr. 2021
- 2021 **Apparatus and method for interpolating frames based on multiple flows**
Korea Patent no.10-2201297, Jan. 2021

Projects

Jun.2021 – May.2022 **Development of Deep Learning-based Video Frame Interpolation Algorithm for Game and AR Videos**
Samsung Electronics Mobile Division

Jun.2021 – May.2022	Deep Learning-based E2E Video Codec Research <i>Samsung Research</i>
Apr.2020 – Dec.2020	Development of Data Augmentation-based AI Algorithm for Image Enhancement <i>Samsung Research</i>
May.2019 – Dec.2019	Locally Controllable Deep Neural Network Algorithm Development <i>Samsung Research</i>
Apr.2018 – Dec.2018	Development of Compact Deep Networks for Image Processing <i>Samsung Research</i>
Apr.2017 – Dec.2017	Broadcasting Device Controlling & Editing Technology using Personal Voice/Gesture Recognition <i>Institute for Information & Communications Technology Promotion (IITP), Ministry of Science</i>

Honors & Awards

- 2020 **Visual Inductive Priors for Data-Efficient Action Recognition Challenge**
1st Visual Inductive Priors for Data-Efficient Deep Learning Workshop
 - European Conference on Computer Vision (ECCV) Workshop
 - **4th Place**
- 2018 **Honor Graduation Award**
Electrical & Electronic Engineering, Yonsei University
 - Cum Laude
- 2014 - 2017 **Honor Student Award**
Electrical & Electronic Engineering, Yonsei University
 - The Highest Honor Student Award (2014-1)
 - Honor Student Award (2014-2, 2015-1, 2015-2, 2017-1, 2017-2)

Invited Talks

- **AdaCoF: Adaptive Collaboration of Flows for Video Frame Interpolation**
 - GPU Technology Conference (GTC), *NVIDIA, Oct.2020*
- **Introduction to Image Translation**
 - Junior Seminar, *Electrical & Electronic Engineering, Yonsei University, Nov.2020*

Peer Reviews

- IEEE Open Journal of Signal Processing

Activities

- Oct.2019 - Present **Member of PR12**
Deep Learning paper reading group in Tensorflow KR (In Korean)
 - Season 3 (Oct.2019-Jan.2021)
 - Season 4 (Mar.2021-Present)

- Mar.2019 - Present **SNU AI Study**
Offline AI Study Group at Seoul National University
- Season 6 (Mar.2019-Jul.2019)
 - Season 7 (Feb.2020-May.2020)
 - Season 8 (Organizer) (Sep.2020-Dec.2020)
 - Season 9 (Organizer) (Jan.2021-Apr.2021)
 - Season 10 (Organizer) (Aug.2021-Nov.2021)
- Mar.2018 – Dec.2018 **Teaching Assistant**
Electrical and Electronic Engineering, Yonsei University
- (2018-1) Digital Signal Processing
 - (2018-2) Signal and System
- Dec.2019 – Dec.2020 **Young Engineers' Honor Society (YEHS)**
Organization under The National Academy of Engineering of Korea (NAEK)
- Deputy Department Head of Academic Exchange Dpt. (Dec.2017 – Dec.2018)
 - Department Head of Academic Exchange Dpt. (Dec.2018 – Dec.2019)
 - President (Dec.2019 – Dec.2020)

Last Updated: October, 2021