

# Hyeongmin Lucas Lee

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

📺 <https://www.youtube.com/channel/UCz14hRj69FfGsl7ftFOD3ig>

🐙 <https://github.com/HyeongminLEE>

🌐 <https://hyeongminlee.github.io>

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## Research Interest

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

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## 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

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## Work Experience

May.2021 - Nov.2021    **Adobe Research**, San Jose, CA (Remote)  
*Research Intern*

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

## Publications

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- 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, “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.

\* indicates equal contribution

## Patents

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- 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

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- 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**  
*Samsung Research*
- May.2021 – Nov.2021 **Fast Video Stabilization**  
*Adobe Research*

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

## Honors & Awards

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- 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

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- **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

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- IEEE Open Journal of Signal Processing

## Activities

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- 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: November, 2021