Hyunho Yeo

CONTACT

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RESEARCH INTERESTS

Video Streaming, Video Analytics, Video Compression, Video Storage

EDUCATION

Ph.D. in Electrical Engineering FEB. 2017 ∼ FEB. 2023 (Expected)
Korea Advanced Institute of Science and Technology (KAIST)
Advisor: Dongsu Han

B.S. in Electrical Engineering (Magna Cum Laude) FEB. 2012 ∼ FEB. 2017
Korea Advanced Institute of Science and Technology (KAIST)

PUBLICATIONS

Conference

1. **NEMO: Enabling Neural-enhanced Video Streaming on Commodity Mobile Devices**
   Hyunho Yeo, Chan Ju Chong, Youngmok Jung, Juncheol Ye, and Dongsu Han
   ACM MobiCom 2020 (Acceptance Rate 62/384: 16.1%)
   • Homepage: http://ina.kaist.ac.kr/ nemo/
2. **Neural-Enhanced Live Streaming: Improving Live Video Ingest via Online Learning**
   Jaehong Kim*, Youngmok Jung*, Hyunho Yeo, Juncheol Ye , and Dongsu Han
   ACM SIGCOMM 2020 (Acceptance Rate 53/250: 21.2%)
   • Homepage: http://ina.kaist.ac.kr/ livenas/
3. **Neural Adaptive Content-aware Internet Video Delivery**
   Hyunho Yeo, Youngmok Jung, Jaehong Kim, Jinwoo Shin, and Dongsu Han
   USENIX OSDI 2018 (Acceptance Rate 47/257: 18.2%)
   • Homepage: http://ina.kaist.ac.kr/ nas/
   • Note: First paper from KAIST in the history of OSDI

Workshop

1. **How will Deep Learning Change Internet Video Delivery?**
   Hyunho Yeo, Sunghyun Do, Dongsu Han
   ACM HotNets 2017 (Acceptance Rate 28/124: 22.5%)
   • Homepage: https://dl.acm.org/doi/10.1145/3152434.3152440

HONORS AND AWARDS

1. **KAIST Breakthrough of the Year (LiveNAS, NEMO)**
   KAIST, 2021
2. **Kim Youngwhan Global Leader Scholarship, Outstanding Research Achievement**
   KAIST, 2020
3. **Microsoft Fellowship Asia Nomination Award**
   Microsoft Research Asia, November, 2019
4. **Kim Choongki Award, Best Research Achievement**
   School of Electrical Engineering, KAIST, 2018

RESEARCH PROJECTS

1. **Neural-enhanced Mobile Streaming** NOVEMBER 2018 ∼ JULY 2020
   Developed a method to accelerate super-resolution DNNs on mobile devices and integrated it with adaptive streaming
2. **Neural-enhanced Live Injest** NOVEMBER 2018 ∼ JULY 2020
   Developed a video delivery system that integrates super-resolution DNNs with live ingest.
3. **Neural-enhanced Adaptive Streaming** JUNE 2017 ∼ OCTOBER 2018
   Developed a video delivery system that integrates super-resolution DNNs with adaptive streaming.

INVITED TALKS

1. **NEMO: Enabling Neural-enhanced Video Streaming on Commodity Mobile Devices**
   Conference talk at MobiCom, September, 2020
   Invited talk at KAIST EE computing lunch, September, 2020
2. **Neural Adaptive Content-aware Internet Video Delivery**
   Conference talk at OSDI, October, 2018
   Invited talk at KAIST EE computing lunch, October, 2018
   Invited talk at NVIDIA AI conference, July, 2019
3. **How will Deep Learning Change Internet Video Delivery?**
   Workshop talk at HotNets, November, 2017

ACADEMIC ACTIVITIES

Journal Review

1. IEEE Multimedia
2. IEEE Transactions on Networking

Mentorship (KAIST Undergraduate Research Program)
Suro Kim (Spring-Fall 2020), Yonatan Gizachew (Fall 2019)

Mentorship (KAIST Individual Study)
Seung Ho Baek, Seung Jun Lee, Tee Won Lee, Chan Ju Chong, Su Min Shin, Ji Hoon Shin, Sung Whan Kim, Jae Hong Kim, Young Mok Jung, Sunghyun Do

ISSUED PATENTS

1. "Machine learning based content-aware video delivery method and content distribution network architecture", Dongsu Han, Hyunho Yeo, Sunghyun Do
   US patent (Filing date: 2018-03-19, No.15924637; Issued date: 2020-02-11, No.10,560,731)

COURSES

Recent Advances in Deep Learning (EE807)	AUTUMN 2018
Advanced Image Restoration and Quality Enhancement (EE838)	AUTUMN 2018
Advanced Networking and Cloud System (EE817)	SPRING 2018
Foundation of Big Data Analytics (EE412)	FALL 2017
Deep Learning and AlphaGo (EE488)	FALL 2017
Deep Learning for Computer Vision (EE837)	FALL 2017
Information Security (IS511)	SPRING 2017
Statistical Learning Theory (EE531)	SPRING 2017
Network Systems and Security (EE513)	SPRING 2017

PROFICIENT SKILLS

Programming Languages: Python, C, C++, UNIX shell scripting, Latex
Deep Learning Frameworks: Tensorflow, Pytorch, Qualcomm SNPE
Languages: Korean (native), English