

Sukjun (June) Hwang

CONTACT INFORMATION

✉ **E-mail:** sukjunh@cs.cmu.edu

🐙 **GitHub:** <https://github.com/sukjunhwang>

🏠 **Homepage:** <https://sukjunhwang.github.io>

in **LinkedIn**

RESEARCH INTERESTS

Novel Architectures: Sequence Modeling, Efficiency, Multi-modality;

Computer Vision: Image & Video Understanding, Object-Centric Representation;

Machine Learning: Representation Learning, Self-supervised Learning, Multi-task Learning.

EDUCATION

PhD in Machine Learning, **Carnegie Mellon University**, Pittsburgh Aug 2023 - Current
Advisor: [Prof. Albert Gu](#)

MS in Computer Science, **Yonsei University**, Seoul, Korea Sep 2020 - Aug 2022
Advisor: [Prof. Seon Joo Kim](#)
Thesis: “To the Better Understanding of Entities in Images and Videos”
Collaborated with [Dr. Seoung Wug Oh](#), [Dr. Joon-Young Lee](#) @**Adobe Research**

BS in Computer Science, **Yonsei University**, Seoul, Korea Mar 2014 - Aug 2020
Summa Cum Laude – Ranked **Top 1** in Dept. of Computer Science
2 years of absence due to obligatory military service (2016 - 2018)
Undergraduate Research Assistant

- [Large-Scale Baseball Video Database](#) refinement
- Automated baseball text broadcast generation, **Best Capstone Design Award**

RESEARCH EXPERIENCE

Adobe Research, San Jose, CA (remote) May 2022 - Aug 2022
(*Research Intern @Media Intelligence Lab*)

- Mentors: [Dr. Jason Kuen](#), [Dr. Jianming Zhang](#), [Dr. Brian Price](#), [Dr. Zhe Lin](#)
- Fusion Visual Cortex Project
- Unified model & framework for multiple dense predictions

Qualcomm AI Research, Seoul, Korea Sep 2019 - Mar 2020
(*Research Intern @Autonomous Driving Team*)

- Network pruning of instance segmentation model used for CES 2020 autonomous driving demo
- Developed user-interactive mask annotation tool

CONFERENCE PUBLICATIONS

Miran Heo, **Sukjun Hwang**, Jeongseok Hyun, Hanjung Kim, Seoung Wug Oh, Joon-Young Lee, Seon Joo Kim, “[A Generalized Framework for Video Instance Segmentation](#)”. In *CVPR*. 2023.

(* Indicates equal contribution)

Miran Heo*, **Sukjun Hwang***, Seoung Wug Oh, Joon-Young Lee, Seon Joo Kim, “[VITA: Video Instance Segmentation via Object Token Association](#)”. In *NeurIPS*. 2022.

🎓 [Google Scholar](#)

Sukjun Hwang, Miran Heo, Seoung Wug Oh, Seon Joo Kim, “[Cannot See the Forest for the Trees: Aggregating Multiple Viewpoints to Better Classify Objects in Videos](#)”. In *CVPR*. 2022.

Su Ho Han, **Sukjun Hwang**, Seoung Wug Oh, Yeonchool Park, Hyunwoo Kim, Min-Jung Kim, Seon Joo Kim, “[VISOLO: Grid-Based Space-Time Aggregation for Efficient Online Video Instance Segmentation](#)”. In *CVPR (Oral)*. 2022.

Sukjun Hwang, Seoung Wug Oh, Seon Joo Kim, “[Single-shot Path Integrated Panoptic Segmentation](#)”. In *WACV*. 2022.

Sukjun Hwang, Miran Heo, Seoung Wug Oh, Seon Joo Kim, “[Video Instance Segmentation using Inter-Frame Communication Transformers](#)”. In *NeurIPS*. 2021.

WORKSHOP
PUBLICATIONS

Sukjun Hwang*, Miran Heo*, Seoung Wug Oh, Joon-Young Lee, Seon Joo Kim, “[Direct Association of Object Queries for Video Instance Segmentation](#)”. In *CVPRW - The 4th Large-scale Video Object Segmentation Challenge Workshop*. 2022.

Miran Heo, **Sukjun Hwang**, Seoung Wug Oh, Joon-Young Lee, Seon Joo Kim, “[Integrating Pose and Mask Predictions for Multi-person in Videos](#)”. In *CVPRW - Efficient Deep Learning for Computer Vision Workshop*. 2022.

SKILLS



Programming Languages Python, C/C++, Java

Tools Deep Learning Frameworks (PyTorch, JAX, TensorFlow), Python Libraries (OpenCV, Cython, NumPy, SciPy, matplotlib, etc), Parallel Programming (CUDA, Triton)

AWARDS
AND HONORS

Excellent Paper Award, Yonsei University AI Workshop Oct 2022
[Outstanding Reviewer Award](#), CVPR 2022 Jun 2022
3rd Place Award, CVPRW 2022 YouTube-VIS Challenge Track 2 Jun 2022
Summa Cum Laude (Ranked Top 1 in Dept. of CS), Yonsei University Aug 2020
Full Scholarship from Yonsei University for Master’s Degree 2020 - 2022
Multiple Honors & Scholarships from Yonsei University 2014 - 2020

TEACHING
EXPERIENCE

Yonsei University, Seoul, Korea

- TA of Object Oriented Programming (Fall 2020)
- Tutor of Operating System (Spring 2017)
- Tutor of System Programming (Spring 2018), **Best Tutor Award**

ACADEMIC
SERVICES

Reviewer of

- NeurIPS, ICLR
- CVPR, ICCV, ECCV, WACV

MILITARY
SERVICE

US 8th Army, Camp Humphreys, Korea Aug 2016 - Apr 2018
(*KATUSA - Korean Augmentation To the United States Army*)

- Sergeant (E-5), Squad Leader
- 2nd place of [Toughest Talon](#) challenge

OTHER
SERVICES

Demo Leader, NeurIPS 2022 High School Outreach Program 2022
[Habitat for Humanity](#) - Home Repair Service in South Korea 2016 - 2020
[Happy Move](#) - Home Construction Service, Dispatched to Chennai, India 2019
Mentor of High School Students in Dongducheon, Korea 2019
Tutor of Junior Students at Yonsei University 2017 - 2018
Student Vice-President of Dept. of Computer Science, Yonsei University 2015
Student President of Class of 2018, Dept. of Computer Science, Yonsei University 2014

TALKS

SNU & VESSL AI. VITA - NeurIPS 2022 paper Oct 2022
[YouTube-VOS Challenge Track 2](#). 3rd place solution - CVPRW 2022 paper Jun 2022
WACV. SPINet - WACV 2022 paper Jan 2022
[42dot](#). IFC - NeurIPS 2021 paper Sep 2021

REFERENCE

Available upon request.