

Younggun Kim

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RESEARCH INTERESTS & APPROACHES

- 1) **Research Interests:** Cyber-Physical Systems, System-Level Transportation Optimization, Autonomous Vehicle Fleet Management
- 2) **Approaches:** Deep Learning, Multimodal Learning, Reinforcement Learning, Convex Optimization

EDUCATION

University of California, Los Angeles (UCLA), CA, U.S.

Sept. 2026 - Aug. 2030

- ✓ Doctor of Philosophy in Civil Engineering (Transportation)
- ✓ **Advisor:** Dr. Youngseo Kim

University of Central Florida, FL, U.S.

Aug. 2024 - Dec. 2025

- ✓ Master of Science in Civil Engineering [GPA: 4.0/4.0]
- ✓ **Advisor:** Dr. Mohamed Abdel-Aty
- ✓ **Selected Coursework:** *Advanced Computer Vision; Machine Learning; Computer Vision; Connected Autonomous Vehicles; Algorithms and Models for Smart Cities; Data Mining*

Ajou University, Suwon, South Korea

Mar. 2018 - Feb. 2024

- ✓ Bachelor of Science in Mechanical Engineering [GPA: 4.28/4.5 (3.9/4.0) (top 2%)]
- ✓ **Selected Coursework:** *Fundamental of Machine Learning; Numerical Analysis and Machine Learning; Data Structure; Industrial Robotics; Automotive Engineering; System Dynamics*

PUBLICATIONS (* and † indicate corresponding authors and equal contributions, respectively.)

Accepted Publications (incl. minor revision)

- [1] [Context-Aware Conformal Prediction for VLM-Based Driving Scene QA](#)
 - ✓ Yang-Jun Joo*, **Younggun Kim**, Sung-Yeon Park, Mohamed Abdel-Aty
 - ✓ *International Conference on Machine Learning Workshop (ICMLW)*
- [2] [Safe-LLaVA: A Privacy-Preserving Vision-Language Dataset and Benchmark for Biometric Safety](#)
 - ✓ **Younggun Kim**[†], Swetha Sirnam[†], Fazil Kagdi, and Mubarak Shah
 - ✓ *IEEE/CVF Conference on Computer Vision and Pattern Recognition Findings (CVPR Findings)*, 2026.
- [3] [Multi-view Structural Convolution Network for Domain-Invariant Point Cloud Recognition of Autonomous Vehicles](#)
 - ✓ **Younggun Kim**, Mohamed Abdel-Aty, Beomsik Cho, Seonghoon Rhoo, and Soomok Lee*
 - ✓ **Minor Revision** at *IEEE Transactions on Intelligent Vehicles*, 2026. [Impact Factor: 14.3, JCR Quartiles: Q1]
- [4] [Region-Level Vision-Language Model for Detecting Distraction Behaviors and Mobility Attributes of Vulnerable Road Users](#)
 - ✓ Dai Quoc Tran*, Mohamed Abdel-Aty, **Younggun Kim**, Ahmed Abdelrahman, and Zybayer Islam
 - ✓ *IEEE Transactions on Intelligent Transportation Systems*, 2026. [Impact Factor: 8.4, JCR Quartiles: Q1]
- [5] [VRU-Accident: A Vision-Language Benchmark for Video Question Answering and Dense Captioning for Accident Scene Understanding](#)
 - ✓ **Younggun Kim**, Ahmed Abdelrahman*, and Mohamed Abdel-Aty
 - ✓ *IEEE/CVF International Conference on Computer Vision Workshop (ICCVW)*, 2025. [**Oral, Best Student Paper Award**]
- [6] [Pedestrian Crossing Direction Prediction at Intersections for Pedestrian Safety](#)
 - ✓ **Younggun Kim***, Mohamed Abdel-Aty, Keechoo Choi, Zubayer Islam, Dongdong Wang, and Shaoyan Zhai
 - ✓ *IEEE Open Journal of Intelligent Transportation Systems*, 2025. [Impact Factor: 5.3, JCR Quartiles: Q1]
- [7] [3D Adaptive Structural Convolution Network for Domain-Invariant Point Cloud Recognition](#)
 - ✓ **Younggun Kim** and Soomok Lee*
 - ✓ *Asian Conference on Computer Vision (ACCV)*, 2024.

Under Review & arXiv Preprint

- [1] [AVA-VLM: Adaptive Visual Attention-Vision Language Model for In-the-Wild Construction Site Monitoring](#)
 - ✓ **Younggun Kim**, Dai Quoc Tran, Taeheon Kim, Seunghee Park*
 - ✓ Under review at *Automation in Construction*. [Impact Factor: 11.5, JCR Quartiles: Q1]

[2] [MMCAformer: Macro-Micro Cross-Attention Transformer for Traffic Speed Prediction with Microscopic Connected Vehicle Driving Behaviors](#)

- ✓ Lei Han*, Mohamed Abdel-Aty, [Younggun Kim](#), Yang-Jun Joo, and Zybayer Islam
- ✓ Under review at *IEEE Transactions on Intelligent Transportation Systems*. [Impact Factor: 8.4, JCR Quartiles: Q1]

[3] [Gated Kinematic–Visual Fusion for Right-Turn Pedestrian Conflict Risk Assessment](#)

- ✓ Dai Quoc Tran*, Mohamed Abdel-Aty, Qianqian Jin, [Younggun Kim](#), Zubayer Islam, Seunghee Park
- ✓ Under review at *IEEE Transactions on Intelligent Transportation Systems*. [Impact Factor: 8.4, JCR Quartiles: Q1]

PROFESSIONAL SERVICES

[1] **Reviewer**, 1. *Science of Remote Sensing*, 2. *Transportation Research Board Annual Meeting*, (5 times), 3. *IEEE Open Journal of Intelligent Transportation Systems*, 4. *International Conference on Computer Vision Workshop (ICCVW)*.

CONFERENCE PRESENTATIONS

[1] Yang-Jun Joo*, [Younggun Kim](#), Sung-Yeon Park, and Mohamed Abdel-Aty, “Context-Aware Conformal Prediction for VLM-Based Driving Scene QA”, *International Conference on Machine Learning Workshop (ICMLW)*, 2026.

[2] [Younggun Kim](#)[†], Swetha Sirnam[†], Fazil Kagdi, and Mubarak Shah, “Safe-LLaVA: A Privacy-Preserving Vision-Language Dataset and Benchmark for Biometric Safety”, *IEEE/CVF Conference on Computer Vision and Pattern Recognition Findings (CVPR Findings)*, 2026.

[3] **Five papers** (5 out of 5), including two as first authors and three as co-author, were accepted at *105th Transportation Research Board Annual Meeting*, 2026.

[4] [Younggun Kim](#), Ahmed Abdelrahman*, and Mohamed Abdel-Aty, “VRU-Accident: A Vision-Language Benchmark for Video Question Answering and Dense Captioning for Accident Scene Understanding”, *IEEE/CVF International Conference on Computer Vision Workshop (ICCVW)*, 2025. [**Oral, Best Student Paper Award**]

[5] [Younggun Kim](#) and Soomok Lee* “3D Adaptive Structural Convolution Network for Domain-Invariant Point Cloud Recognition”, *the Asian Conference on Computer Vision (ACCV)*, 2024. [**BK21 Distinguished Conference Paper List**]

[6] [Younggun Kim](#), Yooseong Lee, Uikyum Kim*, “Design of capable of Grasping and Manipulating Various objects”, *17th Korean Robotics Society Annual Conference (KROS)*, 2022. [**Oral, Best Paper Award**]

PATENTS

[Younggun Kim](#), Minjoung Sim, Hojun Lee, Wonjun Choi, and Hanbin Choi, Intelligent cradle for a device (Patent No. 10-2506732, KR)

Mar. 2023

SELECTED AWARDS AND SCHOLARSHIPS

UCLA Graduate Student Researcher Funding

Sept. 2026 - Aug. 2030

Fully funded by the University of California, Los Angeles, covering tuition, insurance, and stipend.

UCF Research Assistantship

Aug. 2024 - Dec. 2025

Fully funded by the University of Central Florida, covering tuition, insurance, and stipend.

Best Student Paper Award (Oral)

Oct. 2025

2COOL Workshop, IEEE/CVF International Conference on Computer Vision (ICCV).

City Scholarship

Jun. 2023

Asan Future Scholarship Foundation, South Korea

Awarded to students who are expected to lead the 4th Industrial Revolution in the future

1st Place in the Patent Competition

Jun. 2023

Ajou University, South Korea

Merit-based Scholarship (1 out of 637)

Apr. 2023

Daewoo Scholarship Foundation, Ajou University, South Korea

Awarded to a student ranked 1st (top 0.16%) in the College of Engineering based on semester GPA.

Best Paper Award (Oral)

May. 2022

17th Korean Robotics Society Annual Conference (KROS)

TECHNICAL SKILLS

- [1] **Specialties:** Deep Learning, Computer Vision, Large Language Models, Dataset and Benchmark Curation
[2] **Programming:** Python, C/C++, Matlab [3] **Framework:** Pytorch, OpenCV, HF Transformers [4] **OS:** Linux, Windows
[5] **Analysis:** Ansys Workbench [6] **Manufacturing:** 3D printing, Laser cutting [7] **CAD:** SolidWorks

REFERENCES

Academic Advisors

- Dr. Youngseo Kim (Email: youngseo@ucla.edu)
- Assistant Professor, Department of Civil and Environmental Engineering, University of California, Los Angeles, CA, U.S.
- Dr. Mohamed Abdel-Aty (Email: m.aty@ucf.edu)
- Trustees Chair Professor and Pegasus Professor, University of Central Florida, FL, U.S.
- Citations: 43,700+, H-index: 111
- Fellow of ASCE and ITE
- Editor-in-Chief Emeritus, *Accident Analysis & Prevention*
- Dr. Mubarak Shah (Email: shah@crcv.ucf.edu)
- Trustee Chair Professor and Founding Director of the Center for Research in Computer Vision at UCF, FL, U.S.
- Citations: 117,000+, H-index: 150
- Fellow of IEEE, AAAS, IAPR, and SPIE
- Editor-in-Chief, *Machine Vision and Applications*
- Dr. Soomok Lee (Email: slee337@kennesaw.edu)
- Assistant Professor, Department of Computer Science, Kennesaw State University, Georgia, U.S.

Career & Life Mentor

- Dr. Keechoo Choi (Email: keechoo@ajou.ac.kr)
- President, Ajou University, Suwon, South Korea
- Founding Editor-in-Chief, *International Journal of Sustainable Transportation*