

# 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] [Safe-LLaVA: A Privacy-Preserving Vision-Language Dataset and Benchmark for Biometric Safety](#)
  - ✓ **Younggun Kim**<sup>†</sup>, Swetha Sirnam<sup>†</sup>, Fazil Kagdi, and Mubarak Shah
  - ✓ *Computer Vision and Pattern Recognition Findings (CVPR Findings)*, 2026.
- [2] [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]
- [3] [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]
- [4] [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
  - ✓ *International Conference on Computer Vision Workshop (ICCVW)*, 2025. [**Oral, Best Student Paper Award**]
- [5] [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]
- [6] [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] [Context-Aware Conformal Prediction for VLM-Based Driving Scene QA](#)
  - ✓ Yang-Jun Joo, **Younggun Kim**, Sung-Yeon Park, Mohamed Abdel-Aty
  - ✓ Under review at *International Conference on Machine Learning Workshop (ICMLW)*

[3] [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]

[4] [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] [Younggun Kim](#)<sup>†</sup>, Swetha Sirmam<sup>†</sup>, Fazil Kagdi, and Mubarak Shah, “Safe-LLaVA: A Privacy-Preserving Vision-Language Dataset and Benchmark for Biometric Safety”, *Computer Vision and Pattern Recognition Findings (CVPR Findings)*, 2026.

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

[3] [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”, *International Conference on Computer Vision Workshop (ICCVW)*, 2025. [**Oral, Best Student Paper Award**]

[4] [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**]

[5] [Younggun Kim](#), Yooseong Lee, Uikyum Kim\*, “Design of capable of Grasping and Manipulating Various objects”, *17<sup>th</sup> 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, 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

### **1<sup>st</sup> 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 1<sup>st</sup> (top 0.16%) in the College of Engineering based on semester GPA.

### **Best Paper Award (Oral)**

May. 2022

*17<sup>th</sup> Korean Robotics Society Annual Conference (KROS)*

### **1<sup>st</sup> Place in College of Engineering Academic Club Competition**

Sep. 2018

*Ajou University, South Korea*

## TECHNICAL SKILLS

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- [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

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### *Academic Advisors*

- Dr. Youngseo Kim (Email: [youngseo@ucla.edu](mailto: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](mailto:m.aty@ucf.edu))  
- Trustees Chair Professor and Pegasus Professor, University of Central Florida, FL, U.S.  
- Citations: 43,400+, H-index: 111  
- Fellow of ASCE and ITE  
- Editor-in-Chief Emeritus, *Accident Analysis & Prevention*
- Dr. Mubarak Shah (Email: [shah@crcv.ucf.edu](mailto:shah@crcv.ucf.edu))  
- Trustee Chair Professor and Founding Director of the Center for Research in Computer Vision at UCF, FL, U.S.  
- Citations: 115,900+, H-index: 150  
- Fellow of IEEE, AAAS, IAPR, and SPIE  
- Editor-in-Chief, *Machine Vision and Applications*
- Dr. Soomok Lee (Email: [slee337@kennesaw.edu](mailto: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](mailto:keechoo@ajou.ac.kr))  
- President, Ajou University, Suwon, South Korea  
- Founding Editor-in-Chief, *International Journal of Sustainable Transportation*