Jaehwan Jeong

Email | Google Scholar | LinkedIn | Website

Research Interests

Embodied AI, Robotic Learning, Autonomous Systems
Multi-modal learning, Generative model, AI safety

Education

- **Korea University** *Mar. 2024 - Fe. 2029 (Expected)*
  Ph.D. - Artificial Intelligence Seoul, South Korea
- **Chung-Ang University** *Mar. 2017 - Fe. 2021*
  B.E. - Electrical & Electronic Engineering Seoul, South Korea

Experience

- **Structures-Computer Interaction Lab @ University of California, Los Angeles (UCLA)** *Mar. 2025 - Present*
  *Visiting Graduate Researcher; **3D Farm Project Lead** (Advisor: Prof. M. Khalid Jawed)*
  - VLN & RL-driven safe autonomy for UGV via multi-sensor fusion *(in progress)*
  - Eye-in-Hand autonomous robotic arm manipulation - **[J3]**
  - Integrated UGV field robotics system deployment - **[J2]**
- **Computer Vision Lab @ Korea University** *Mar. 2024 - Fe. 2025*
  Ph.D. Student Researcher (Advisor: Prof. Sangpil Kim)
  - Adversarial noise for Deepfake AI safety *(collaborated with Dr. Jaewook Chung @ **Samsung Research**)* - **[C2]**
  - Multi-modal audio-to-video generation *(collaborated with Dr. Eugenio Culurciello @ **Purdue Univ.**)* - **[J1]**
- **Computer Vision Lab @ Korea University** *Jul. 2023 - Fe. 2024*
  Undergraduate Research Intern (Advisor: Prof. Sangpil Kim)
  - Diffusion-based long video generation *(collaborated with Dr. Wonmin Byeon @ **NVIDIA Research**)* - **[C1]**
- **Military Officer** *Mar. 2021 - Jun. 2023*
  Signal Company, 5th Armored Brigade, Republic of Korea Army
  - Operations and Tactical Planner - 1st Lieutenant
  - Wired communication network management (UTP, Optical cables) - 2nd Lieutenant

Publications

C=Conference, J=Journal

[J3] **Jaehwan Jeong***, Tuan-Anh Vu*, Radha Lahoti, Jiawen Wang, Vivek Alumootil, Sangpil Kim, M. Khalid Jawed, ***Vision-Guided Targeted Grasping and Vibration for Robotic Pollination in Controlled Environments***, under review, 2025 [PDF] [Code]

[J2] **Jaehwan Jeong**, Tuan-Anh Vu, Mohammad Jony, Shahab Ahmad, Md. Mukhlesur Rahman, Sangpil Kim, M. Khalid Jawed, ***AgriChrono: A Multi-modal Dataset Capturing Crop Growth and Lighting Variability with a Field Robot***, under review, 2025 [PDF] [Project] [Code]

[C2] **Jaehwan Jeong**, Sumin In, Sieun Kim, Shin han yi, Jonghen Jeong, Sang Ho Yoon, Jaewook Chung, Sangpil Kim, ***FaceShield: Defending Facial Image against Deepfake Threats***, International Conference on Computer Vision (**ICCV**) 2025 [PDF] [Code]

[J1] Sieun Kim, **Jaehwan Jeong**, Sumin In, Seung Hyun Lee, Seungryong Kim, Saerom Kim, Wooyeol Baek, Sang Ho Yoon, Eugenio Culurciello, Sangpil Kim, ***Semantically Complex Audio to Video Generation with Audio Source Separation***, Engineering Applications of Artificial Intelligence (**JCR IF Top 10%**) 2025 [PDF] [Code]

[C1] Gyeongrok Oh, **Jaehwan Jeong**, Sieun Kim, Wonmin Byeon, Jinkyu Kim, Sungwoong Kim, Sangpil Kim, ***MEVG: Multi-event Video Generation with Text-to-Video Models***, European Conference on Computer Vision (**ECCV**) 2024 [PDF] [Code]

Academic Service

- **Conference Reviewer**
  IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2025
  IEEE/CVF International Conference on Computer Vision (ICCV), 2025
  The 29th International Conference on Developments in Language Theory (DLT), 2025
- **Journal Reviewer**
  Computer Vision and Image Understanding (CVIU), 2025
  Engineering Applications of Artificial Intelligence (EAAI), 2025

Patents

[P1] **Jaehwan Jeong**, Sangpil Kim, ***Method and Apparatus for Protecting Facial Image based on Disturbance Signal to Counter Deepfake Attack***, Korean Patent, No. 10-2025-0118588 (2025.08.25)

Skills

- **AI & Perception**
  Diffusion Models, VLN(A), Adversarial Attack,
  Reinforcement Learning, 3D Reconstruction
- **Robotics & Sensor Fusion**
  Unmanned Ground Vehicle (UGV), Robotic Arms,
  ROS2, RGB-D Cameras, LiDAR, GNSS, IMU

References

- **Asst. Prof. Sangpil Kim**
  Department of Artificial Intelligence, Korea University, South Korea
- **Assoc. Prof. M. Khalid Jawed**
  Department of Mechanical and Aerospace Engineering, University of California, Los Angeles
- **Postdoc. Tuan-Anh Vu**
  Department of Mechanical and Aerospace Engineering, University of California, Los Angeles