In-Jae Lee

Ph.D. Student in Interdisciplinary Program in Artificial Intelligence
Seoul National Universiy
Visual&Geometric Intelligence Lab in Computer Science Department

+82-010-5046-8706
injae.lee@snu.ac.kr
Google Scholar

Research Interest

Sensor Fusion, 3D Perception with visual foundation models and Unsueprvised 3D Object Detection but not limited to.

Education

Seoul National University, Seoul *09. 2024 –*
Ph.D. Student in Interdisciplinary Program in Artificial Intelligence (Advisor: prof. Jaesik Park, VGILAB)

KAIST(Korea Advanced Institute of Science and Technology), Daejeon *02. 2022 – 02. 2024*
Masters in Mobility (Advisor: prof. Dongsuk Kum , AXELAB)
Thesis : Camera-Radar Fusion for backward projection based 3D Object Detection

Kookmin University, Seoul *03. 2016 – 02. 2022*
Bachelor of Automotive Engineering

Experience

VGI Lab, Seoul National University *03. 2024 - 06. 2024*
Advisor: Jaesik Park
- Open-Vocabulary 3D Object Detection with LiDAR Detector

MSCLab, KAIST *06. 2021 - 09. 2021*
Advisor: Kyong-Soo Kim
- Model Compression for Stereo based 3D Object Detection Model

IMLab, Kookmin University *12. 2020 - 02. 2021*
Advisor: Sejoon Lim

Publications

- **International Conferences**
  - (Under Review) OccAL: Scene-Distribution Guided Active Learning for 3D Occupancy in Autonomous Driving
    Wonjune Kim, **In-Jae Lee**, Sihwan Hwang, Sanmin Kim, and Dongsuk Kum
    2025.
  - (Highlight) OpenBox: Annotate Any Bounding Boxes in 3D
    In-Jae Lee[*], Moonkyum Kim[*], Kwonyoung Ryu, Musacchio Pierre and Jaesik Park
    Conference on Neural Information Processing Systems (NeurIPS). 2025.
  - CRAB: Camera-Radar Fusion for Reducing Depth Ambiguity in Backward Projection based View Transformation.
    In-Jae Lee, Sihwan Hwang, Youngseok Kim, Wonjune Kim, Sanmin Kim, and Dongsuk Kum
    IEEE International Conference on Robotics and Automation (ICRA). 2025.[pdf]
  - Predict to Detect: Prediction-guided 3D Object Detection using Sequential Images.
    Sanmin Kim, Youngseok Kim, **In-Jae Lee** and Dongsuk Kum
    IEEE/CVF International Conference on Computer Vision (ICCV). 2023.[pdf]
  - CRN: Camera Radar Net for Accurate, Robust, Efficient 3D Perception.
    Youngseok Kim, Juyeb Shin, Sanmin Kim, **In-Jae Lee**, Junwon Choi and Dongsuk Kum
    IEEE/CVF International Conference on Computer Vision (ICCV). 2023.[pdf]

Projects

Towards General LiDAR Object detection via unifying LiDAR dataset
funded by Hyundai Motor Group

- Open-Vocabulary 3D Object Detection with LiDAR Detector

Lv.4 Establishment of a Testbed Environment for Self-Driving Vehicles
funded by Ministry of Land, Infrastructure and Transport
- Recognition of sensor failure case using Deep learning
- Camera Calibration

4D Imaging Radar Sensor-Based Data
funded by National Information Society Agency, NIA
- Verifying collected Camera-LiDAR-Radar dataset

Skills

- **Languages**: TOEIC(945/990), TEPS(393/600)
- **Programming Languages**: **Python, PyTorch**, C++, MATLAB
- **Tools and Frameworks**: CarSim