

Dohyun Kim

[LinkedIn](#)

Email: kbh446688@gmail.com

Mobile: (+82) 010-8375-8196

Military service: Technical Research Personnel — currently serving (transfer available); completion expected Mar. 2027.

Education

KAIST

Master of Science in Mechanical Engineering

Daejeon, South Korea

Mar. 2022 – Mar. 2024

- Research in stereo matching, 3D perception, and camera geometry. Relevant coursework: Visual Intelligence, Autonomous Mobile System, Machine Learning for 3D Data, Probability and Statistics.

KAIST

Bachelor of Science in Mechanical Engineering; Double Major in Electrical Engineering

Daejeon, South Korea

Mar. 2015 – Jun. 2021

Technical Skills

3D Vision: camera calibration, stereo matching, LiDAR, multi-view geometry, 3D reconstruction, sensor geometry

Neural 3D: NeRF, Gaussian Splatting, neural scene representation, capture/reconstruction workflows

Robotics: robot perception foundations, robot guidance interest, spatial representation, Physical AI interest

AI / Agents: AI agents, agentic workflows, tool-use workflows, model-assisted automation

Programming / Tools: Python, C++, LabVIEW, OpenCV, PyTorch, TensorFlow, COLMAP, SOLIDWORKS

Work and Experience

Recon Labs

AI Researcher

Seoul, South Korea

Mar. 2024 – Present

- **3D Gaussian Splatting R&D:** Researched 3D Gaussian Splatting for a production 3D capture service, focusing on reconstruction quality for real-world captures — artifact and floater suppression, background modeling, and regularization — with additional work on rasterization and rendering optimization.
- **Multi-drone 3D Scanning of Outdoor Objects:** Working-level owner of a government-funded multi-drone 3D scanning task: advised capture trajectories, set capture-quality requirements for partner companies, and coordinated the reconstruction-API plan and data pipeline; completed the 1st-year PoC.
- **Reconstruction-based Dimension Measurement:** Built a retail pilot that reconstructs an object from a five-image phone capture and measures real-scale dimensions, owning the pipeline from reconstruction/measurement algorithms to the mobile capture flow and GPU serving.
- **Generative Virtual Try-on:** Developed virtual try-on features for a fashion service by combining and evaluating multiple generative models.
- **AI Agent Development:** Top contributor to the agent harness of a graph-based generative content platform: built canvas-context tools so the agent understands what the user is creating, a GraphRAG retrieval pipeline with an ontology graph store (Neo4j), and the memory / tool-routing architecture for recommending next actions across generative tools.

HUMAN Laboratory, KAIST

Graduate Researcher

Daejeon, South Korea

Mar. 2022 – Mar. 2024

- **Stereo Vision-based 3D Measurement:** Developed stereo vision-based measurement workflows for industrial-scale structures, improving camera calibration and image preprocessing for high-speed, high-precision 3D measurement.
- **Automatic Correspondence Detection:** Built correspondence-point detection logic using feature keypoints, ROI separation, and co-visible region analysis for precise stereo matching on industrial-scale image data.
- **Miniature 3D Sensor Platform:** Contributed sensor signal-processing algorithms and CNN-based ambiguity-resolution extensions for a compact optical 3D sensing platform.
- **RGB-D Motion Recognition:** Participated in RGB-D camera-array positioning and motion-recognition research for XR-based ship steering and training systems.

Publications and Awards

Conference Proceeding: Jeongmin Kim, **Dohyun Kim**, Jin Kim, and Yong-Hwa Park, "A novel stereoscopic 3D motion measurement using bi-axial optical system with one image sensor for remote machine health monitoring," *MOEMS and Miniaturized Systems XXIII*, vol. 12899, pp. 121–129, 2024. DOI: 10.1117/12.3002065.

Domestic Conference: **Dohyun Kim**, "Stereo matching technique for large-scale ship block using epipolar geometry," *KSPE 2023 Autumn Conference*, Nov. 17, 2023.

Excellence Award: KAIST NOVIC+ Thesis Festival, Jan. 2024.