Jaemin Cho

Website — jaemin.cho@stonybrook.edu — LinkedIn — GitHub

SUMMARY

M.S. student in Computer Science specializing in 3D computer vision, visual localization, and implicit scene reconstruction. Experienced in developing vision-based deep learning models for privacy-preserving scene coordinate regression, omnidirectional visual localization, and human pose estimation.

EDUCATION

Stony Brook University *Aug. 2024 – Present*
M.S. in Computer Science GPA: 3.84/4.0

Inha University *Mar. 2018 – Jun. 2024*
B.E. in Electronic Engineering
Exchange student: Stony Brook University *Spring 2023*

RESEARCH EXPERIENCE

3D Vision Lab, Stony Brook University (SUNY Korea) *Aug. 2024 – Present*
Research Assistant, PI: Prof. François Rameau

Seeing Through the Weights: Privacy Leakage in Scene Coordinate Regression
Co-first author, under review at ECCV 2026

- Developed an API-based, domain-agnostic query-image attack on scene coordinate regression (SCR) models for visual localization. The method uses Gaussian perturbations of proxy features to estimate prediction stability, optimizes features when gradients are available, and yields locally consistent 3D structure.
- Reconstructed private scene geometry across four representative SCR architectures, with Chamfer distances below 2 cm on indoor scenes and 0.3 m on outdoor scenes, challenging the assumption that SCR-based visual localization models are privacy-preserving.
- Recovered approximate scene appearance from reconstructed geometry via a feature inversion network that refines noisy proxy-induced descriptors with a five-block Transformer encoder and generates novel-view images through a convolutional upsampling decoder.

Omni-directional Scene Coordinate Regression for 360° Visual Localization

- Developed a camera-aware canonical projection and pose-rotated view generation pipeline for SCR, enabling cross-device compatibility and improving robustness over prior baselines.

Korea Electric Power Corporation Research Institute *Sep. 2023 – Feb. 2024*
Research Internship, Supervisor: Changhun Chae

Hyper-realistic Safety Training System (immerseLearn)
Winner, Best Education & Training Solution, AWE USA 2024

- Achieved a 7ms latency reduction and 30MAdds computation decrease in a MobileNetV3-based 2D pose estimation pipeline for real-time risk assessment using lightweight attention.
- Customized a 3D pose risk assessment pipeline for electrical safety training environments, adapting ergonomic posture evaluation criteria to detect hazardous trainee actions.
- Implemented a multimodal 3D pose estimation pipeline for a VR safety training system through the integration of multiple-camera and IMU motion sensors for real-time tracking.

HONORS AND AWARDS

President's Award, SBU Graduate Research Challenge, SUNY Korea *Nov. 2025*
Awarded for research on privacy leakage in scene coordinate regression for visual localization

Graduate Tuition Scholarship and RA Stipend, SBU SUNY Korea *Aug. 2024 –*
President's Award, Inha University, Industry-driven Capstone Design Contest *Jun. 2022*
Anti-Money Laundering Challenge Hackathon Winner, 5th Annual Nepal AI School *Jan. 2025*

TECHNICAL SKILLS

Languages: Python, C/C++, CUDA
Frameworks: PyTorch, PyTorch3D, OpenCV, Open3D, NumPy, pandas, Trimesh
3D Vision Models: NeRF, Dust3R, VGGT (Visual Geometry Grounded Transformer)
Tools: Git, GitHub, Docker, ROS, Linux, Blender. CloudCompare, MeshLab, LaTeX

ADDITIONAL EXPERIENCE

Visionin *Jul. 2023 – Aug. 2023*
Software Development Intern

- Developed a CCTV fire detection model using YOLOv4 deployed across 19 Lotte Department Stores, improving mAP by 6% and reducing false alarms by 9% through iterative data refinement.

5th Annual Nepal AI School (ANAIS) *Dec. 2024 – Jan. 2025*
Mentor, Anti-Money Laundering Challenge Hackathon

- Supervised four Nepal undergraduate students on graph algorithms and Neo4j visualization, leading the hackathon winning team

Honeywell Korea Collaborative CO Detector, Capstone Contest *Mar. 2022 – Jun. 2022*

- Designed an ARM Cortex-M3–based CO detector and implemented embedded firmware in C for real-time sensing and alarm control.

MILITARY SERVICE

KATUSA (Korean Augmentation to the United States Army) *Jul. 2019 – Jan. 2021*
Sergeant, Human Resource Specialist