Inseok Kong

Undergraduate Researcher · Department of GeoInformatics & AI · University of Seoul

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Research Interests

I am interested in making AI systems **trustworthy in Real-World Applications**. My research began with **Adversarial Defense** for 3D Point Clouds. Viewing adversarial attacks as only one of many threats that models face in practice, I broadened my focus to **Test-Time Adaptation** under Distribution Shifts caused by sensor noise and environmental changes. Recognizing that this loss of reliability is not unique to 3D Point Clouds, I then turned to other domains, and currently study **Hallucination Mitigation** in Large Vision-Language Models and Audio-Visual LLMs. Going forward, I aim to extend this line of research to **Omni-Modal Models**, **Vision-Language-Action (VLA) Models**, and **Physical AI**.

Education

University of Seoul *Mar 2022 – Present (Expected: Aug 2027)*

B.S. in GeoInformatics and Artificial Intelligence (Double Major) Seoul, South Korea

- **Cumulative GPA:** 3.8 / 4.5
- **Relevant Coursework:** Machine Learning, Deep Learning, Pattern Recognition, Data Structures, Algorithms.

Publications & Preprints

[C: Conference, S: Submitted]

[C.1] APC: Transferable and Efficient Adversarial Point Counterattack for Robust 3D Point Cloud Recognition *Jun 2026*

Geunyoung Jung, Soohong Kim, **Inseok Kong**, and Jiyoung Jung *Denver, CO, USA*

IEEE/CVF Conference on Computer Vision and Pattern Recognition Findings (CVPR Findings)

[C.2] MAMVI: 3D Test-Time Adaptation via Masked Multi-View Point Clouds *Aug 2026*

Inseok Kong, Geunyoung Jung, and Jiyoung Jung *Lyon, France*

IEEE/IAPR International Conference on Pattern Recognition (ICPR) **(Oral Presentation)**

[C.3] SATOR: Backpropagation-Free 3D Test-Time Adaptation via Sample-Adaptive Token Routing *Jan 2027*

Inseok Kong, Geunyoung Jung, and Jiyoung Jung *Orlando, FL, USA*

IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)

[S.1] Mitigating Feature Collapse for Test-Time Adaptation of 3D VLMs via Distribution-Guided Regularization *Submitted*

Geunyoung Jung, **Inseok Kong**, and Jiyoung Jung

Under Review

[S.2] Class Topology Survives Corruption: Prior, Monitor, and Repair for 3D Continual Test-Time Adaptation *Submitted*

Geunyoung Jung, **Inseok Kong**, and Jiyoung Jung

Under Review

[S.3] AEAO: Question-Adaptive Attention Budgets for Mitigating Cross-Modal Hallucinations in Audio-Visual Large Language Models *Submitted*

Inseok Kong and Heeseung Kim

Under Review

Research Experience

Speech & Interactive AI Laboratory (SIA) *Aug 2026 – Present*

Undergraduate Research Student (Advisor: Prof. Heeseung Kim) University of Seoul, South Korea

- Conducting research on **Audio-Visual LLMs (AV-LLMs)**, focusing on hallucination mitigation to enhance multimodal reliability and trustworthiness.

Statistical Inference and Information Theory Lab (SIIT) *Jul 2026 – Aug 2026*

Undergraduate Research Student (Advisor: Prof. Junmo Kim) KAIST, Daejeon, South Korea

- Conducted individual research on **Large Vision-Language Models (LVLMs)**, focusing on mitigating object hallucination and improving uncertainty calibration to address visual-textual misalignment and enhance multimodal trustworthiness.

Robotics and Computer Vision Lab (RCV) *Jul 2025 – Jun 2026*
Undergraduate Research Student (Advisor: Prof. Jiyoung Jung) University of Seoul, South Korea

- Researched **3D Test-Time Adaptation (TTA)** under severe domain shifts, investigating lightweight online adaptation strategies for 3D point cloud networks to maintain high inference accuracy while eliminating backpropagation overheads.
- Investigated **Point Cloud Robustness & 3D Adversarial Defense**, studying structural vulnerabilities of 3D point cloud classification architectures and exploring input-level defense mechanisms to neutralize point perturbations dynamically.
- Explored robust representation alignment for **3D Vision-Language Models (VLMs)**, addressing feature collapse and cross-modal misalignment issues under environmental corruptions and out-of-distribution (OOD) scenarios.

Projects

LG Aimers 8th Cohort *Jan 2026 – Feb 2026*
Track: LLM Compression Online

- Researched and applied model compression & optimization techniques (pruning, quantization) on EXAONE Large Language Models.

Optimal Autonomous Shuttle Route Planning [News] *Oct 2025 – Jan 2026*
Capstone Design Project & Seoul Big Data Campus Seoul, South Korea

- Developed optimal route planning algorithms using mobility big data to support customized autonomous shuttle services for transportation-vulnerable elderly citizens in Seoul.

Sportier (UOS Entrepreneurship Club) *Mar 2025 – Jul 2025*
Lead Developer & President (Tools: React.js, JavaScript) Seoul, South Korea

- Led the entrepreneurship club as president and developed a sports matchmaking web application featuring location-based matching and competitive tier rankings.

Football Big Data Analytics *Feb 2025*
Football Big Data Camp Seoul, South Korea

- Investigated practical applications of LLMs and Retrieval-Augmented Generation (RAG) in football performance analytics.

Honors & Awards

Creativity Award *Sep 2026*
K-DATA Science Conference & Hackathon Seoul, South Korea
Excellence Award *Jun 2026*
Seoul RISE AI Competition (Project: SATOR) Seoul, South Korea
Excellence Award *Jan 2026*
UOS Capstone Design Project Seoul, South Korea
Grand Prize (Seoul Mayor Award) *Oct 2025*
Seoul Metropolitan Big Data Campus Competition Seoul, South Korea
Encouragement Award *Aug 2025*
AICOSS Industry-Academia Hackathon (Diffusion & LLM Storybook) Seoul, South Korea
Dean's Award of College of Engineering *Jan 2025*
AICOSS Deep Learning Bootcamp (2D ViT Classification) Seoul, South Korea

Volunteer & Mentoring

KB Raschool 3rd Generation Mentor *Mar 2025 – Feb 2026*
Samsung Sori-Saem Welfare Center Seoul, South Korea

- Provided tailored mathematics mentoring and academic counseling for hearing-impaired 9th-grade students.

Seoul Donghaeng Project Mentor *Sep 2024 – Dec 2024*
Manna Regional Children's Center Seoul, South Korea

- Conducted mathematics mentoring and high school entrance guidance for multicultural 8th-grade students.

Skills, Certifications & Languages

- **Technical Skills:** Python, PyTorch, MATLAB, LaTeX, Git, Linux / Ubuntu
- **SQL Developer (SQLD)**, *Korea Data Agency (K-DATA)* *Dec 2024*
- **Advanced Data Analytics Semi-Professional (ADsP)**, *Korea Data Agency (K-DATA)* *Nov 2024*

- **English:** *TOEIC (835)* *Aug 2022 (Expired)*

Additional Information

- **Military Service:** Republic of Korea Army (Sergeant, Honorably Discharged) *Feb 2023 – Aug 2024*
- **Interests:** Formula 1 (Red Bull Racing / Max Verstappen)

Last updated: November 12, 2026