Seoyoung Ju

✉ Mail | 🌐 Website | 🔗 LinkedIn | GitHub

Education

Korea University   *Seoul, South Korea*
Integrated M.S.-Ph.D. in Artificial Intelligence   *Mar. 2026 – Present*

Sangmyung University   *Seoul, South Korea*
B.E. in Human-Centered Artificial Intelligence   *Mar. 2023 – Aug. 2025*
- Overall GPA: 4.2 / 4.5
- Major GPA: 4.36 / 4.5

Research Experience

Medical Artificial Intelligence Lab, Korea University   *Seoul, South Korea*
Advisor: Prof. Tae-Eui Kam   *July. 2025 – Present*

Medical Imaging Lab, Seoul National University   *Seoul, South Korea*
Advisor: Prof. Nam-joon Kim   *Mar. 2025 – Present*

Publications

3D-LLDM: Label-Guided 3D Latent Diffusion Model for Improving High-Resolution Synthetic MR Imaging in Hepatic Structure Segmentation   April 2026 / ISBI

Kyeonghun Kim, Jaehyeok Bae, Youngung Han, Joo Young Bae, *Seoyoung Ju*, Junsu Lim, Gyeongmin Kim, Nam-Joon Kim[†], Woo Kyoung Jeong, Ken Ying-Kai Liao, Won Jae Lee, Hyuk-Jae Lee

MAESIL: Masked Autoencoder for Enhanced Self-supervised Medical Image Learning   January 2026 / ICEIC

Kyeonghun Kim, Hyeonseok Jung, Youngung Han, Junsu Lim, YeonJu Jean, Seongbin Park, Eunseob Choi, Hyunsu Go, *Seoyoung Ju*, Seohyoung Park, Gyeongmin Kim, MinJu Kwon, Kyungseok Yuh, Soo Yong Kim, Ken Ying-Kai Liao, Nam-Joon Kim[†], Hyuk-Jae Lee

Contextual Optimization of Trajectory prediction Through transfer-learning Adaptation   January 2026 / ICEIC

Seohyoung Park, Jaeyeol Lim, *Seoyoung Ju*, Kyeonghun Kim, Ken Ying-Kai Liao, Nam-Joon Kim[†], Hyuk-Jae Lee

QCNet의 한국 도로 적응성 실험 및 최적 학습 전략 탐색   November 2025 / 대한전자공학회 추계종합학술대회

Seohyoung Park, Jaeyeol Lim, *Seoyoung Ju*, Kyeonghun Kim, Nam-Joon Kim[†], Hyuk-Jae Lee

CIPHER: Counterfeit Image Pattern High-level Examination via Representation for GAN and Diffusion Discriminator Learning   October 2025 / ICCE-Asia

Kyeonghun Kim, Youngung Han, *Seoyoung Ju*, YeonJu Jean, YooHyun Kim, Minseo Choi, SuYeon Lim, Kyungtae Park, Seungwoo Baek, Sieun Hyeon, Nam-Joon Kim[†], Hyuk-Jae Lee

FOSCU: Feasibility of Synthetic MRI Generation via Duo-Diffusion Models for Enhancement of 3D U-Nets in Hepatic Segmentation

October 2025
IEEE APCCAS

Youngung Han, Kyeonghun Kim, *Seoyoung Ju*, Yeonju Jean, Minkyung Cha, Seohyoung Park, Hyeonseok Jung, Nam-Joon Kim[†], Woo Kyoung Jeong, Ken Ying-Kai Liao, Hyuk-Jae Lee

ControlNet Guidance 기반 레이블 유도 3D Latent Diffusion Model을 활용한 의료 볼륨 합성

June 2025
대한전자공학회
하계종합학술대회

Minkyung Cha, Kyeonghun Kim, Youngung Han, Juyoung Bae, *Seoyoung Ju*, Induk Eom, Chaeyoung Lee, Myeongbin So, Suyeon Lim, Yeonju Jean, MinJu Kwon, Hyeonseok Jung, Kyungseok Yuh, Seohyoung Park, Sunghoon Park, Soo Yong Kim, Yoonkyung Jeon, Minjae Park, Sunghoon Lee, Nam-Joon Kim[†], Pa Hong, Wonjae Lee, Woo Kyoung Jeong, Jihye Min, Hyuk-Jae Lee

Awards

The 2nd KASI-KAIST Astronomical Space AI Competition [4th Place (지구상)]
KASI & KAIST | Team Member
July. 2025 –Aug. 2025

2025 Bias-A-Thon: Bias Discovery Challenge [5th Place (장려상)]
Sungkyunkwan University & Dacon | Team Member
28 Apr. 2025 – 19 May. 2024

Projects

Face Image Generation and Fake Detection using DDPM & ProGAN
OUTTA | Team Member
Mar. 2025 – June. 2025

- Developed a facial generation and deepfake detection pipeline using DDPM and ProGAN, validating performance against SOTA benchmarks.

Voice Emotion Recognition & ArXiv Abstract Classification AI Competition Organizer
Mar. 2025 – June. 2025
OUTTA | Team Leader

- Organized a Kaggle-style competition by designing datasets and optimizing baseline models, achieving 93% (Audio) and 91% (NLP) accuracy.

Analysis of Food Desert in Daejeon
Sangmyung University | Personal
Mar. 2025 – May. 2025

- Formulated a Food Access Index by integrating demographic and commercial data, utilizing GIS mapping to identify underserved areas for policy intervention.

Revitalizing Traditional Markets Nationwide through Online Reviews
Mar. 2025 – May. 2025
Sangmyung University | Personal

- Analyzed consumer feedback by web-scraping Naver reviews, utilizing sentiment analysis and word clouds to derive insights for market revitalization.

Industrial Worker Safety Accident Prevention and Emergency Response Robot
Sep. 2024 – Dec. 2024
POSTECH Institute of Artificial Intelligence | Team Member

- Developed an autonomous monitoring robot integrating SLAM navigation, AI-based safety vision, and a RAG-driven voice chatbot for industrial incident response.

Sales Growth through Convenience Store Customer Purchase Pattern Analysis ⌾ *Sep. 2024 – Dec. 2024*
POSTECH Institute of Artificial Intelligence | Team Member

- Proposed data-driven marketing strategies by analyzing purchasing patterns and customer tiers using real sales and environmental data.

Image-Based Sentiment-Aware Song Recommendation Web Service ⌾ *Mar. 2024 – Aug. 2024*
Sangmyung University | Team Member

- Built a personalized music recommendation platform using BLIP-based image captioning and similarity-based keyword matching on Django.

Extracurricular Activities

OUTTA
Mentor & Executive *Sep. 2023 – Present*

INYRO
Member, Sangmyung University *Sep. 2023 – Aug. 2025*

Additional Educations

POSCO AI Big Data Academy
POSTECH Institute of Artificial Intelligence *Sep. 2024 – Dec. 2024*

Digital Healthcare AI Solution Development and Field Experience
Medical AI Center, Seoul National University Bundang Hospital *Sep. 2024*

The 5th LG Aimers: Product Anomaly Detection Using Manufacturing Process Data
LG AI Research *July. 2024 – Aug. 2024*

OUTTA Bootcamp 2023
OUTTA *July. 2023 – Aug. 2023*

Others

Certification

- 정보처리기사 *Sep. 2025*
- ADSP *Jun. 2024*