

RESEARCH INTERESTS

Multimodal Learning · AI Safety · Medical AI · Human-Computer/Robot Interaction

EDUCATION

Dongguk University

M.S./Ph.D in Artificial Intelligence

- Cumulative GPA: 4.5/4.5

B.S. in Information and Communication Engineering

- Graduated with Distinction | Cumulative GPA: 4.16/4.5 | Major GPA: 4.29/4.5

Seoul, South Korea

Mar 2024 - Present

Mar 2019 - Feb 2024

RESEARCH EXPERIENCE

Bot Intelligence Group (BIG)

Visiting Research Scholar at Carnegie Mellon University – supervised by Dr. Jean Oh

Pittsburgh, PA, United States

Aug 2025 - Feb 2026

Machine Learning Lab

M.S/Ph.D at Dongguk University – supervised by Dr. Jihie Kim

Seoul, South Korea

Mar 2024 - Present

Artificial Intelligence Lab

Undergraduate Researcher at Dongguk University – supervised by Dr. Gijoo Yang

- Statement Analysis Automation for Authenticity Assessment

Seoul, South Korea

Feb 2022 - Dec 2022

Machine-to-Machine Lab (M2M Lab)

Visiting Scholar at Purdue University – supervised by Dr. Eric Matson

West Lafayette, IN, United States

Oct 2021 - Dec 2021

- IoT Farm Firefighting System using Simplified Data Transmission with UAV and LoRa

PUBLICATIONS

*: Equal Contribution

J. Park, **S. Choi**, J. Seo, M. Sohn, Y. Kim, and J. Kim.

SEA: Evaluating Sketch Abstraction Efficiency via Element-level Commonsense Visual Question Answering.
CVPR 2026.

S. Kang*, N. Park*, I. S. Shin*, E. Lee, **S. Choi**, J. Jung, J. K. Lee, Y. N. Lee, J. H. Moon, K. R. Joo, J. S. Kim, and J. Kim.

Machine Learning Prediction of Common Bile Duct Stones Using Synthetic Data to Guide Emergency ERCP Decisions.
Scientific Reports, 2026.

H. Seo*, **S. Choi***, M. Hong*, Y. Zhou, J. Kim, L. Ismaila, N. Etori, M. Agarwal, Z. Liu, J. Kim, and J. Oh.

Exposing Blindspots: Cultural Bias Evaluation in Generative Image Models.
IASEAI'26 Main Conference.

J. Han*, J. Seo*, J. Min*, **S. Choi**, H. Seo, J. Kim, and J. Oh.

Before We Trust Them: Decision-Making Failures in Navigation of Foundation Models.
AAAI 2026 Summer Symposium Series.

Z. Ullah, **S. Choi**, and J. Kim.

BBR-Net: Boundary-Balanced Replay for Continual Medical Image Segmentation.
arXiv preprint, 2026. (Under Review).

Z. Ullah, **S. Choi**, and J. Kim.

Contour-Guided Query-Based Feature Fusion for Boundary-Aware and Generalizable Cardiac Ultrasound Segmentation.
arXiv preprint, 2026. (Under Review).

M. Lee, S. Hong, C. Lee, **S. Choi**, J. Kim, J. Han, and J. Kim.

Elderly-Contextual Data Augmentation via Speech Synthesis for Elderly ASR.
arXiv preprint arXiv:2604.24770, 2026. (Under Review).

H. Seo*, M. Hong*, **S. Choi***, J. Kim, and J. Oh.

Evaluating Demographic Misrepresentation in Image-to-Image Portrait Editing.
arXiv preprint, 2026.

J. Park, **S. Choi**, J. Seo, and J. Kim.

StableSketcher: Enhancing Diffusion Model for Pixel-based Sketch Generation via Visual Question Answering Feedback.

arXiv preprint, 2025. (Under Review).

Y. Kim, Y. Kim, Y. Shin, J. Lee, and **S. Choi**.
Dedicated Delivery Platform Based on the User Experience of the Visually Impaired.
KIPS, 2022, pp. 974–976.

PROJECT

VLM-guided Collaborative Robotic Cinematography [View] Oct 2025 - Dec 2025
• Designed a VLM-driven, director-in-the-loop workflow for stop-motion filmmaking using a robot arm (xArm 6).

EXPERIENCES

Teaching Assistant
Introduction to Programming (RGC1092) Spring 2026
Convergence Capstone Design (SCS4031) Spring 2026
Computer System (SCS2011) Fall 2024, Spring 2025
Computer Network and Security (SCS4032) Spring 2024, Spring 2025
Data Science Capstone Design (DSC4007) Spring 2024, Fall 2024, Spring 2025

Teaching Materials Author
Open Source Software Project (SCS4045) — Docker & Git
Data Science Capstone Design (DSC4007) — Slack & Git
Computer Network and Security (SCS4032) — Socket Programming & Wireshark

Technology Team – Data Analysis & Product Engineering San Jose, CA, United States
Student Intern at Cipherome, Inc Mar 2023 – Feb 2024
• Designed and implemented COMPASS product interfaces and analysis pipelines; built cohort/dataset extraction, pre-processing, EDA/ML, and GWAS workflows on UK Biobank and MIMIC datasets; integrated Samsung Medical Center patient datasets into the platform for clinical analysis.
• Generated and validated Synthea-based synthetic medical datasets for Kangwon National University; authored hackathon materials and supported on-site coordination.

INTELLECTUAL PROPERTY

J. Kim, **S. Choi**, J. Park, J. Seo, M. Son, Y. Kim.
Method for Evaluating Sketch Abstraction Efficiency Using Commonsense-Based Visual Question Answering.
Korean Patent Application No. 10-2026-0097953, filed May 29, 2026. Dongguk University Industry-Academic Cooperation Foundation.

J. Kim, J. Park, **S. Choi**.
Method and System for Sketch Image Generation.
Korean Patent Application No. 10-2025-0108830, filed Aug. 7, 2025. Dongguk University Industry-Academic Cooperation Foundation.

J. Kim, S. Kang, E. Lee, **S. Choi**.
Machine Learning-Based Prediction Using Synthetic Data: A Novel Multicenter Model for Guiding Disease Diagnosis Decision-Making.
Software Registration No. C-2025-031588, registered Aug. 18, 2025. Dongguk University Industry-Academic Cooperation Foundation.

J. Kim, S. Kang, E. Lee, **S. Choi**.
Machine Learning-Based Prediction of Common Bile Duct Stones Using Synthetic Data: A Novel Multicenter Model for Guiding ERCP Decision-Making.
Software Registration No. C-2025-030387, registered Aug. 8, 2025. Dongguk University Industry-Academic Cooperation Foundation.

J. Kim, S. Kang, E. Lee, **S. Choi**.
3D Image-Tabular Fusion Model for Clinical Reasoning of Micro-Localized Lesions.
Software Registration No. C-2025-030390, registered Aug. 8, 2025. Dongguk University Industry-Academic Cooperation Foundation.

AWARDS & HONORS

ICT Challenge 2024 – 1st Place <i>Ministry of Science and ICT, South Korea</i>	Sep 2024
Merit-Based Scholarship <i>Dongguk University, Seoul, South Korea</i>	2022 - 2023
Academic Excellence Award <i>Dongguk University, Seoul, South Korea</i>	2020 - 2022
Software-Centered Academic Excellence Scholarship <i>Dongguk University, Seoul, South Korea</i>	2021
Dongguk Leader Scholarship – Student Representative <i>Dongguk University, Seoul, South Korea</i>	2021
ICT Convergence Services Idea Competition based on 5G and AI – 1st Place <i>The Korean Institute of Communications and Information Sciences, South Korea</i>	Feb 2021
Academic Excellence Scholarship <i>Dongguk University, Seoul, South Korea</i>	2020

SERVICES

Student Volunteer, ICML 2026 <i>Seoul, South Korea</i>	2026
Student Volunteer, IJCAI 2024 <i>Jeju, South Korea</i>	2024
Exchange Student Supporter <i>Dongguk University, Seoul, South Korea</i>	2019, 2021
Coding Education Volunteer, Hi-SW Volunteer Program <i>Dangjin Middle School, Dangjin, South Korea</i>	2021
Korea Student Aid Foundation Summer Educational Volunteer Camp <i>Yeongjae Community Child Center, Eumseong, South Korea</i>	2021
Student Mentor, Hyundai KEFICO Junior Smart Car Engineering Class <i>Salvation Army Angel Tree Community Child Center & Sharon Community Child Center, Gunpo, South Korea</i>	2019