Juho Jung

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LinkedIn | GitHub | Google Scholar

RESEARCH INTEREST

Multimodal Machine Learning, Computer Vision, Medical Imaging, Uncertainty Calibration, Visual Reasoning

EDUCATION

Sungkyunkwan University **Sep 2022 – Aug 2024**
Master of Science in Applied Artificial Intelligence *GPA: 4.33 / 4.5*

Carnegie Mellon University, Pittsburgh, PA **Aug 2023 – Feb 2024**
Visiting Scholar in School of Computer Science *GPA: 3.7 / 4.0*
Intensive Program in AI, sponsored by IITP

Sungkyunkwan University **Mar 2019 – Aug 2022**
Bachelor of Science in Applied Artificial Intelligence (Magna Cum Laude) *GPA: 4.02 / 4.5*
Bachelor of Science in Engineering

WORK EXPERIENCE

VUNO Inc. (Alternative Military Service, Technical Research Personnel) **Nov 2024 – Now**
AI Research Scientist *On-site, Full time*

- **Main Skills**: PyTorch, Docker, Onnx
- **Technical Experience:** Developed a 3D CT DICOM handler for parsing DICOM header information; deployed models via Docker containers on L4/T4 machines
- **Research Experience:** Built a super-resolution model for enhancing low-quality CT DICOM images (volumetric super-resolution module in *VUNO Med*®-LungCT AI™); developed zero-shot classification models for detecting abnormalities using CT scans and clinical reports
- ***Keywords***: Medical Image Processing, 3D CT Modeling

Medipixel Inc. **Apr 2024 – Nov 2024**
Machine Learning Research Engineer *On-site, Full time*

- **Main Skills**: PyTorch, Huggingface, Jit
- **Technical Experience:** Preprocessing medical data (DICOM) and images, developing and refining evaluation metrics, visualizing model training processes and results, and conducting code reviews and organization using Git and Bitbucket.
- **Research Experience:** Conducting research on coronary video multiclass classification, developing multitask learning framework for detecting lesions, classifying vessel types, and localizing specific diseases
- ***Keywords***: Medical Image Processing, Video Object Detection, Deep Learning, 2D/3D image classification, 3D Modeling, Real-time

Elevenliter Inc., Lifet **Feb 2022 – Sep 2022**
AI Researcher *Founded a pet healthcare startup*

- **Main Skills:** PyTorch, Huggingface, TorchScript

- **Research Experience:** Developing an AI model for single-image disease detection and segmentation, reducing the features and number of parameters
- ***Keywords***: Image Processing, Data Annotation, Deep Learning, Feature Reduction

HONORS & AWARDS

2024

- Best Research Matters Award, Sungkyunkwan University

2022

- Academic Excellence Scholarship, Sungkyunkwan University — Full Tuition, M.S.
- Magna Cum Laude in AAI, Sungkyunkwan University — Honor B.Sc.
- 3rd Samsung Financial AI Open Collaboration — 1st Prize
- 2nd Hackathon for developing Medical AI Imaging Diagnosis System using Medical Big Data, Ministry of Trade, Industry and Energy & Kakao Enterprise — 3rd Prize

2021

- 2021 AI × SW HACKATHON, Korean Internet Information Society President's Award — 4th Prize
- Sungkyunkwan University President's Award for Convergence Basic Project — Excellent Award
- Sungkyunkwan University Python Boot Camp Outstanding Completion — 3th Prize

2019

- 9th Sungkyun Debate Competition, Sungkyunkwan University (1st Prize in the Campus of Natural Sciences and Engineering) — 4th Prize

PUBLICATIONS

Publications: Equal Contributions (†), Corresponding Author (*)

2025 (Under Review)

- Third Author, **"Automated Structured Radiology Report Generation With Structured Radology Report,"** *The Fourteenth International Conference on Learning Representations (ICLR 2026), Under Review*
- **Juho Jung†** et al, **"Deep learning-based model for automatic detection of mediastinal abnormal lesions in chest CT scans,"** *respirology (SCIE, JCR 2022 IF = 6.6), Under Review*
- **Juho Jung†** et al, **"Adaptive Spatial Coverage for Active Learning in CXR Segmentation,"** *Medical Image and Computer Assisted Intervention (MICCAI 2026), Ready for Submission*
- **Juho Jung†** et al, **"Improved Deep Learning-Based CAD System for Usual Interstitial Pneumonia Classification in Chest HRCT,"** *SCI, Ready for Submission*
- **Juho Jung†** et al, **"A Vision-Language Model for 3D Medical Imaging with Long-Form Radiology Report Modeling,"** *Medical Image and Computer Assisted Intervention (MICCAI 2026), Ready for Submission*

2025

- First Author, **"Deep Learning-Based Automatic Detection of Mediastinal Abnormal Lesions in Chest CT Using Anatomical Pseudo-Labeling,"** *KATRD International Conference 2025*
- Third Author, **"Improved Deep Learning-Based CAD System for Usual Interstitial Pneumonia Classification in Chest HRCT,"** *KCR 2025*

- **Juho Jung**† et al, **"CAMEL: Confidence-Aware Multi-task Ensemble Learning with Spatial Information for Retina OCT Image Classification and Segmentation,"** *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2025)*

2024

- **Second Author**, **"Anti-VEGF Treatment Outcome Prediction based on Optical Coherence Tomography Images in Neovascular Age-Related Macular Degeneration using a Deep Neural Network,"** *Scientific Reports (SCIE, JCR 2022 IF = 4.6)*
- **Juho Jung,** Chaewon Kang, Jeewoo Yoon, Seungbae Kim, Jinyoung Han*, **"HiQuE: Hierarchical Question Embedding Network for Multimodal Depression Detection,"** *Proceedings of the 33rd ACM International Conference on Information and Knowledge Management (CIKM 24)*
- **Juho Jung**†**,** Sangyoun Lee†, Jooeon Kang†, Yunjin Na†, **"WWW: Where, Which and Whatever Enhancing Interpretability in Multimodal Deepfake Detection,"** *The Trustworthy AI Workshop @ IJCAI 2024*
- **Juho Jung**†**,** Minyoung Choe†, Kushagra Agarwal†, Nivedhitha Dhanasekaran†, **"GraphEHR: Heterogeneous Graph Neural Network for Electronic Health Records,"** *AI for Critical Infrastructure Workshop @ IJCAI 2024*
- Migyeong Kang†, **Juho Jung**†**,** Minhan Cho, Daejin Choi*, Eunil Park, Sangheon Pack, Jinyoung Han*, **"ISOML: Inter-Service Online Meta-Learning for Newly Emerging Network Traffic Prediction,"** *Proceedings of the 22nd Annual International Conference on Mobile Systems, Applications and Services (ACM MOBISYS' 24)*
- Sangyoun Lee, **Juho Jung,** Changdae Oh, Sunghee Yun*, **"Enhancing Temporal Action Localization: Advanced S6 Modeling with Recurrent Mechanism,"** *preprint*
- **Juho Jung**† et al, **"Prediction of Neovascular Age-related Macular Degeneration Recurrence using Optical Coherence Tomography Images with a Deep Neural Network,"** *Scientific Reports (SCIE, JCR 2022 IF = 4.6)*, 2024.

Until 2023

- **Juho Jung,** Chaewon Kang, Jeewoo Yoon, Jinyoung Han*, **"SAFE: Sequential Attentive Face Embedding with Contrastive Learning for Deepfake Video Detection,"** *Proceedings of the 32nd ACM International Conference on Information and Knowledge Management (CIKM 23)*
- **Juho Jung**†**,** Geonwoo Park†, and Gwanghyeon Kim*. **"Detecting medial patellar luxation with ensemble deep convolutional neural network based on a single rear view image of the hindlimb,"** *Scientific Reports (SCIE, JCR 2022 IF = 4.6) 13.1.* 2023.
- **Juho Jung,** Naeun Lee, Sumin Kim, Gaeun Seo, Hayoung Oh*, **"Diabetes prediction mechanism using machine learning model based on patient IQR outlier and correlation coefficient,"** *Journal of the Korea Institute of Information and Communication Engineering (JKIICE).* 2021.
- Seojun Kim†, Wonjong Lee†, **Juho Jung**†, and Taeseon Yoon*, **"Analysis on Mannose-binding Lectin as a Treatment of Helicobacter pylori by Using Data Mining,"** *International Conference on Advanced Communications Technology (ICACT).* 2017.

PATENTS

- **Method and Apparatus for Determining Patellar Luxation** — **Patent Application, US**
- **Ophthalmic Disease Diagnosis Apparatus and Method for Animals using AI Models** — **Patent Application, US**

- **Method and Device for Providing Analysis of Pet Oral Information** — **Granted Patent, KOR**
- **Method and System for Analyzing Pet Obesity Information** — **Granted Patent, KOR**
- **Method for Image Analyzing About Luxating Patella** — **Granted Patent, KOR**
- **Diffusion-Based User-Guided Data Augmentation for Coronary Stenosis Detection** — **Patent Application, KOR**
- **Apparatus and Method for Determining Oral Disease in Pets** — **Patent Application, KOR**
- **Method and System for Analysis of Obesity in Pets** — **Patent Application, KOR**
- **Apparatus and Method for Determining Obesity Level in Pets** — **Patent Application, KOR**
- **Apparatus and Method for Diagnosis Pet Disease and Providing Pet Insurance Service** — **Patent Application, KOR**
- **Method for Determining Patella Dislocation and Apparatus Thereof** — **Patent Application, KOR**

SELECTED PROJECTS

Explainable AI for Audio-Visual Deepfake Video Detection — **Sep 2023 – Feb 2024**
@ Carnegie Mellon University

Heterogeneous Graph Neural Network for Electronic Health Records — **Sep 2023 – Dec 2023**
@ 11-785 Introduction to Deep Learning, Carnegie Mellon University

Clinical Decision Support System for Retinal Disease Detection with Explainable AI — **Mar 2023 – Feb 2024**
@ National Research Foundation of Korea (KRF)

Study on Self-Driving B5G Networks towards Federated Private-5G — **June 2021 – Aug 2024**
@ National Research Foundation (NRF) of Korea Grant funded by the Korean Government (MSIT)

User-Centered Artificial Intelligence for Service Design — **July 2020 – July 2024**
@ Information and Communications Technology (ICT)

Content Planning and Human-AI Interaction Design for AI-based Digital Therapy Services — **June 2022 – Nov 2022**
@ National Research Foundation of Korea (KRF)

TEACHING & MENTORING

Teaching Assistant

- AAI3006: Machine Learning, *Sungkyunkwan University* — Spring 2024
- AAI3004: Data Mining, *Sungkyunkwan University* — Fall 2023
- ADS5019: Deep Learning, *Sungkyunkwan University* — Spring 2023
- AAI2005: Computer Structure and System, *Sungkyunkwan University* — Fall 2022

Mentoring

- The 4th College Student AI × BOOKATHON Competition. Winter 2023

TECHNICAL SKILLS

Language/Framework	**Proficient**	Python (with *TensorFlow* and *PyTorch*), Flask, LaTeX, MATLAB
	Intermediate	Javascript, C, C++, Unity, Django, HTML, SQL, Kotlin
Infrastructure	**Proficient**	Linux, Git
General	**Proficient**	Confluence, Jira

Last updated on Sep 21, 2025