Kim Jisoo

jk4739@columbia.edu

+1 646 749 4926

| Personal Website | GitHub |

SUMMARY

Master student in CS with engineering and research experience, interested in AI including vision and LLMs.

Research Interests: Multi-modal Learning, Representation Learning, LLMs

Programming Languages: Python, C, C++, MATLAB, Java, LaTeX, PHP

Frameworks and Toolkits: PyTorch, PyTorch Lightning, Tensorflow, AWS S3, AWS EC2, Git, Docker

EDUCATION

Ewha Womans University   Mar. 2018 – Mar. 2023
Bachelor of Computer Science with focus in AI   *Seoul, Korea*

- CGPA: 3.76/4.3, Major GPA: 3.86/4.3, *Magna Cum Laude*
- Academic Excellence Scholarship (full-tuition scholar during 4 years)

Columbia University   Aug. 2023 – Dec. 2024
Master of Computer Science with focus in Machine Learning   *New York, USA*

PUBLICATIONS

(*Equal contribution are denoted by "*".*)

⟨ Conference ⟩

[1] Y. Moon, **Jisoo Kim**, H. Kim, K. Son, and T.-H. Oh, "TextManiA: Enriching Visual Feature by Text-driven Manifold Augmentation," ICCV, 2023.

⟨ Journal ⟩

[2] D. Kang*, **Jisoo Kim***, D. Kim, H. Kim, C. Ki-Jun "Grape Grade Discrimination System using Step-by-Step Deep Learning Model and Drone Path Planning Algorithm", *Korean Institute of Information Scientists and Engineers: KIISE*, 2021.

WORK EXPERIENCE

Algorithmic Machine Intelligence Lab, POSTECH   Jul. 2022 - May, 2023
Research Assistant *(Advisor : Prof. TaeHyun Oh)*   *Pohang, Korea*

Contributed to novel Vision & LLM research, part of effort to improve visual augmentation

- Researched on Text-driven Visual Augmentation, paper accepted for ICCV 2023. [Project Page]
- Designed experiments such as text-guided image editing and extracted visualization of representation with dimensionality reduction methods.
- Implemented baseline codes with pytorch and conducted a comparison experiment on long-tail classification, achieved 11.54% accuracy gain in tail classes compared to the baseline.

NuviLab, Inc.   Jan. 2022 – Jun. 2022
Machine Learning SDE Intern   *Seoul, Korea*

Worked at a foodtech startup to prototype and develop the first release of AI Food Scanning System

- Implemented a model that classifies 2,000+ food categories in image and videos with Pytorch and Pytorch Lightning.
- Proposed new loss measurement method in CLIP and enhanced food classification performance by 4.9%
- Managed over 10k training images on a daily basis by building automated data collection/training pipeline with AWS.
- Designed an abnormal training behavior detection system; used AWS lambda, fast API and MySQL.

Computer Vision Lab, POSTECH   May 2021 – Sep. 2021

Research Assistant (Advisor : Prof. Jaesik Park)   *Pohang, Korea*

Contributed to implementing and open-sourcing generative models at the Computer Vision Lab

- Researched on Generative Model and Representation Learning.
- Implemented 'Repurposing GANs for One-shot Semantic Part Segmentation' in PyTorch and extended to an ablation study on other tasks and dataset. [Github]

Projects

GGDS: AI-Powered Scalable Vineyard Management Application   Sep. 2021 – Jun. 2022

Project Leader, AI Engineer   *Seoul, Korea*

- Built a continual learning system for grape farms that provides grape grades, yield management, and grape thinning assistance service; technologies consists drone autonomous driving, detection, tracking, segmentation.
- Introduced and presented as best practice at the UIC Barcelona (Universitad Internacional de Catalunya).

AWS CIC Challenge: Perilla Leaf Segmentation and Analysis System   Nov. 2021 – May 2022

AI Software Researcher & Engineer   *Seoul, Korea*

- Constructed leaf segmentation system and calculated the leaf area to build database for perilla leaf farming; applied them to local farms in Geumnsan, Korea.
- Provincial government project, funded by the Geumsan county.

Awards & Honors

Gold Prize, Graduation Project Competition, Ewha Womans University	*May 2022*
2nd Place, Smart Farm AI Challenge, Ministry of Agriculture, Food, and Rural Affairs, Korean Gov.	*Mar. 2022*
Best Poster Award, Graduation Project Competition, Ewha Womans University	*Nov. 2021*
2nd Place, SW Startup Competition, Ewha Womans University	*Nov. 2021*
Finalist in Animal Datathon Korea, Ministry of Agriculture, Food, and Rural Affairs, Korean Gov.	*Aug. 2021*
2nd Place, JunctionXSeoul AI Hackathon, Junction Korea	*May 2021*
ADsP certificate, Advanced Data Analytic Semi-Professional certified by Korea Data Agency	*Mar. 2021*
Dean's List, every eligible quarter	*2020 – 2021*