Jiwoo Choi

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Summary

I am a master student majoring in Artificial Intelligence at Yonsei University. I am currently doing research focusing on images and videos. It is interesting to generate something and I am considering safeAI at the same time. My research interests include Generative Models and AI watermarking against GenAI.

Research Interests : Generative Models, Video Generation, Diffusion camera, AI watermarking, Adversarial Watermark

Education

Yonsei University, MS in Artificial Intelligence   March 2025 – Present

- Advised by Prof. Seon Joo Kim
- GPA: 4.2/4.3 (Complete Semesters: 1)
- **Coursework:** Recent Trends in Computer Vision, Topics in Visual Computing 1, Engineering and Regional Leadership

Ewha Womans University, BS in Biomedical and Mechanical Engineering   March 2020 – Feb 2025

- Specialized program in Software Convergence (Double major)
- GPA: 3.79/4.3
- Led the student body as a freshman student representative
- **Coursework:** Problem Solving and Software Programming, Mechanical Design and Drawing, Thermodynamics, Introduction to Python Programming & Data Analysis, Statistical Learning Theory, Computer Algorithms, Data Structures

Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen University   March 2023 – August 2023

- Exchange Program in Computer Science
- **Coursework:** Computer Vision, Reinforcement Learning and Learning-based Control, Machine Learning with Graphs (Foundations and Applications)

Experience

Graduate Research Assistant, CIPLAB in Yonsei University – Seoul, Korea   July 2024 – Present

- Researching old-contents modernization through color style transfer
- Followed up on papers related to Object Editing (Insertion & Removal) and participated in research aimed at generating scene-to-object and object-to-scene effects

Research Intern, Kist (Korea Institute of Science and Technology) – Seoul, Korea   Sept 2023 – Dec 2023

- Studied Generative models for solving human occlusion problem
- Participated in projects to train multi view 3D human pose estimation by inputting 2D human skeleton

Research Intern, Kist (Korea Institute of Science and Technology) – Seoul, Korea   Dec 2022 – Feb 2023

- Studied projects to train and predict transformer models for pose estimation
- Followed up on overall topics related to action recognition and temporal action localization

Publications

ORIDa: Object-centric Real-world Image Composition Dataset – *CVPR* 2025   Feb 2025
Jinwoo Kim, Sangmin Han, Jinho Jeong, *Jiwoo Choi*, Dongyoung Kim, Seon Joo Kim

**Visual Fidelity vs. Robustness: Trade-Off Analysis of Image Adversarial   Feb 2025
Watermark Mitigated by SSIM Loss** – *ICLRW* 2025
Jiwoo Choi, Jinwoo Kim, Sejong Yang, Seon Joo Kim

Study on Small Object Tracking with OBB Annotations: A Comparative Analysis Jab 2025
of ByteTrack and StrongSORT – *IPIU* 2025
Jiwoo Choi, Seon Joo Kim
accepted as bachelor's thesis

Projects

Color Grading for Long Video 2025
Samsung Research & Yonsei University
- developing a user-controllable color transfer framework for long video

Small Object Detection 2024
Hanium ICT project, Institute for Information and Communications Technology Planning and Evaluation (IITP)
- Received the Director's Award from the Institute for Information and Communications Technology Planning and Evaluation (IITP).
- Title : Performance Analysis of OBB Models for Small Object Detection Using the SAT-MTB Dataset

Text-to-3D Furniture Modeling 2024
Graduation Capston project, Ewha Womans University
- Modifying Text-to-3D Generation Model (LGM) for Furniture sellers using ABO datasets
- Tools Used: Pytorch, Python, Gradio

Technologies

Programming Languages: C++, Python, Pytorch

Languages: Korean (Native), English