Wonhyeok Choi Researcher of Computer Vision & Deep learning

CONTACT DGIST (Daegu Gyeongbuk Institute of Science and Technology)

INFORMATION Dept. Electrical Engineering and Computer Science (EECS) Tel.: +82-10-2997-2903

E3-319, Techno jungang-daero 333, Hyeonpung-eup, E-mail: smu06117@dgist.ac.kr Dalseong-gun, Daegu, Republic of Korea, 42988 h.p.: https://wonhyeok-choi.github.io/

Research Computer Vision (3D perception tasks, Scene Understanding)

INTERESTS Deep Learning (Multi-task Learning, Meta Learning, Dynamic Neural Networks)

Applications - Autonomous driving, AR/VR

EDUCATION Visiting Scholar in Psychiatry & Behavioral Sciences, Sep. 2024 – Dec. 2024

Stanford, United States of America Advisor: Prof. Kilian M. Pohl

M.S. - Ph.D. Integrated Course in Electrical Engineering

Mar. 2022 – present

& Computer Sciences (EECS), DGIST, South Korea

Advisor: Prof. Sunghoon Im

Exchange Student, UC Berkeley, United States of America Jun. 2018 – Aug. 2018

Bachelor of Convergence Science, DGIST, South Korea Mar. 2018 – Feb. 2022

Publications

Wonhyeok Choi*, Kyumin Hwang*, Wei Peng, Minwoo Choi, Sunghoon Im. "Self-supervised Monocular Depth Estimation Robust to Reflective Surface Leveraged by Triplet Mining", International Conference on Learning Representations (**ICLR**), Apr 2025.

Wonhyeok Choi*, Kyumin Hwang*, Minwoo Choi, Kiljoon Han, Wonjoon Choi, Mingyu Shin, Sunghoon Im. "Intrinsic Image Decomposition for Robust Self-supervised Monocular Depth Estimation on Reflective Surfaces", The Association for the Advancement of Artificial Intelligence (**AAAI**), Feb 2025.

Wonhyeok Choi*, Mingyu Shin*, Hyukzae Lee, Jaehoon Cho, Jaehyeon Park, Sunghoon Im. "Multitask Learning for Real-time Autonomous Driving leveraging Task-wise Attention Generator", IEEE International Conference on Robotics and Automation (**ICRA**), May 2024.

Wonhyeok Choi*, Mingyu Shin*, Sunghoon Im. "Depth-discriminative Metric Learning for Monocular 3D Object Detection", Neural Information Processing Systems (**NeurIPS**), Dec 2023.

Wonhyeok Choi, Sunghoon Im. "Dynamic Neural Network for Multi-Task Learning Searching across Diverse Network Topologies", IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), Jun 2023.

Seunghun Lee, **Wonhyeok Choi**, Changjae Kim, Minwoo Choi, Sunghoon Im. "ADAS: A Direct Adaptation Strategy for Multi-Target Domain Adaptive Semantic Segmentation", IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), Jun 2022.

Academic	Awards		
Activities	 Top Prize, 16th ICT Paper Competition and Grand Exhibition, 	Dec	2024
	— Electronic News	Dit.	2021
	3rd Prize, 30th HumanTech Paper Award,	Feb.	2024
	— Samsung Electronics Co., Ltd.		
	Outstanding Researcher Award,	Dec.	2023
	— Electronic Engineering & Computer Sciences, DGIST		
	 Excellence Prize, 15th ICT Paper Competition and Grand Exhibition, Electronic News 	Dec.	2023
	 Kyu-Young Hwang Outstanding Research Award, 	Oct.	2023
	— Electronic Engineering & Computer Sciences, DGIST		
	 Top Prize, Autonomous Driving AI Development Challenge, 	Oct.	2023
	— Ministry of Land, Infrastructure and Transport		
	 Participation Prize, 28th HumanTech Paper Award, 	Feb.	2022
	— Samsung Electronics Co., Ltd.		
Academic	Reviewer		
Activities	• International Conference on Learning Representations (ICLR)		2025
	• International Conference on Machine Learning (ICML)		2025
	• IEEE Robotics and Automation Letters (RA-L)		1 – 2025
	• IEEE Conference on Computer Vision and Pattern Recognition (CVPR)		3 - 2025
	• IEEE International Conference on Computer Vision (ICCV)	2023	3 - 2024
	• IEEE International Conference on Robotics and Automation (ICRA)		2024
	• The European Conference on Computer Vision (ECCV)		2024
	Neural Information Processing Systems (NeurIPS)		2024
Skills	Languages Puthon C. C. L. C.#		
OKILLS	ILLS Languages: Python, C, C++, C# Theory: Type theory, Operation systems, Data structures, and Computer algorithms. Development: Pytorch, HTML, CSS		
	1		
Patents	Registration		
	 METHOD FOR MONOCULAR DEPTH ESTIMATION, 		
	Publication date: Dec. 27, 2024	(10-2024-00	098600)
	METHOD FOR MONOCULAR DEPTH ESTIMATION ON REFLECTIVE	VE SURFAC	Ε,
	Publication date: Jul. 25, 2024 (10-2024-0098600)		
	 METHOD FOR MOBILITY DEVICES LEVERAGING ARTIFICIAL INTELLIGENCE-BASED MULTI-TASK PROCESSING, 		
	Publication date: Mar. 25, 2024	(10-2024-00	040179)
	Publication date: Mar. 25, 2024 (10-2024-0040179) • METHOD FOR ESTIMATING DEPTH FROM MONOCULAR CAMERA IMAGES,		
	Publication date: Jul. 26, 2023	(10-2023-00	
	 METHOD AND APPARATUS FOR MULTI-TASK LEARNING, 		,
	Publication date: Feb. 17, 2023	(10-2023-00	021790)
	 METHOD AND APPARATUS FOR DOMAIN ADAPTATION, 		
	Publication date: Jul. 14, 2022	(10-2022-00	087222)
	METHOD AND APPARATUS FOR DOMAIN ADAPTATION, Bullington July 12, 2022.	(10.0000.0	006614\
	Publication date: Jul. 13, 2022	(10-2022-00	J86614)