Chunghwan Lee

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Education		
	National University of Singapore (NUS)	Singapore, Singapore
	Ph.D., Dept. of Computer Science	*Aug. 2025 – Present*
	Advisor: Prof. Gim Hee Lee	
	Hanyang University (HYU)	Seoul, Korea
	M.S., Dept. of Electronic Engineering (*GPA: 4.31/4.5*)	*Mar. 2022 – Feb. 2024*
	Thesis: *Paired-Point Lifting for Privacy-Preserving Visual Localization*	
	Advisor: Prof. Je Hyeong Hong	
	Hanyang University (HYU)	Seoul, Korea
	B.S., Dept. of Electronic Engineering (*GPA: 3.82/4.5*)	*Mar. 2015 – Feb. 2022*
	Thesis: *Deepfake Detection Using Supervised Temporal Feature Extraction Model and LSTM*	
	Advisor: Prof. Kijung Yoon	

Skills

Programming proficient in: Python (including libraries such as OpeenCV, Open3D, COLMAP; familiar with: C/C++, Java, MATLAB, CUDA coding
Deep learning framework proficient in: PyTorch, Keras and Tensorflow

Publications (International)

1. "**Paired-Point Lifting for Enhanced Privacy-Preserving Visual Localization**", **Chunghwan Lee**, Jaihoon Kim, Chanhyuk Yun, Je Hyeong Hong, *The IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2023*

2. "**Efficient Privacy-Preserving Visual Localization Using 3D Ray Clouds**", Heejoon Moon, **Chunghwan Lee**, Je Hyeong Hong, *The IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2024*

3. "**Enhancing Sparse-View 3D Reconstruction with Unknown Poses via Geometric Prior Guided Refinement**", **Chunghwan Lee**, Deokhwa Kim, Somi Jeong, *The IEEE/CVF Winter Conference on Applications of Computer Vision Workshop (ULTRRA: Unconstrained Large-scale Three-dimensional Reconstruction and Rendering across Altitudes), 2025*

Patents

(*US*) "Localization method and apparatus using line cloud map data, line cloud map data generation method", Je Hyeong Hong, **Chunghwan Lee**, Chanhyuk Yun, *Registration No. 18/417,235 (applicant: HYU)*
Jan. 2024

(*Korea*) "Localization method and apparatus using line cloud map data, line cloud map data generation method", Je Hyeong Hong, **Chunghwan Lee**, Chanhyuk Yun, *Registration No. 10-2023-0008666 (applicant: HYU)*
Jan. 2023

Research Projects

NaverLabs, Research Internship, Spatial AI team — Seongnam, Gyeonggi-do, Korea
Generalizable 3D Gaussian Splatting with unposed image — *Mar. 2024 – Present*
- Developing generalizable feed-forward 3DGS estimation model for 3D scene reconstruction given unposed sparse-view (paired-view) images using DUSt3R & MASt3R.

Hanyang SAIL Lab (HY-Vision Lab), Hanyang University (HYU) — Seoul, Korea
Enhancing Privacy-Preserving Visual Localization — *Mar. 2022 – Feb. 2024*
- Developed privacy preserving 3D line cloud generation method which draw lines by pairing two points, named paired-point lifting(PPL).
- Secured scene recovery attack that intrudes privacy without compromising camera pose re-localization accuracy.

Deep Learning-based Sketched Face Recognition   Oct. 2021 – Feb.2022
- Developed human sketched face recognition model by fine-tuning the ARKFACE and conducting an augmentation on sketch data with CycleGAN.

NIAI Lab, Hanyang University (HYU)   Seoul, Korea
Deepfake Video Detection   Feb. 2021 – Sep. 2021
- Developed classification model discerning deepfake videos by training the model to extract the abrupt features with PCA-based loss.

ICSP Lab, Hanyang University (HYU)   Seoul, Korea
Image-based Weather Classification and Restoration   Jun. 2020 – Oct. 2020
- Devised one-for-all model that processes from classification to reconstruction from bad weather artifacts; Derain, Desnow, Dehaze.

Honors	**Third Place**, IC-PBL+ Graduate Championship 2022-2, IC-PBL Teaching and Learning Center, HYU, Seoul, Korea *2022*

Excellence Award, Undergraduate Hanyang Academic, HYU, Seoul, Korea   *2022*

Excellence Award, The Korean Institute of Broadcast and Media Engineers Fall Conference 2021, The KIBME, Seoul, Korea   *2021*

Scholarships   **HY-in Scholarships**, Graduate Hanyang University, Seoul, Korea   *2022 – present*
$ 12,200

Dept. E.E. Scholarship, Undergraduate Hanyang University, Seoul, Korea   *2015 – 2016*
$ 14,500

Additional   **Paper reviewer - ICIP 2022-2023, WACV 2023-2024, CVPR 2024**