Ting-Hsuan Chen

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Education

University of Southern California *Aug 2024 – present*
MS in Computer Science | GPA: **4.0/4.0**

National Chung Hsing University *Sept 2019 – June 2023*
Department of Applied Mathematics (DAM) - Computer Science Group

- Final Average Score: **96.6%**; GPA: **4.27/4.3**
- Graduated as the Top 1 student, achieving the first position in each of the eight semesters
- Admitted as the representative of the College of Science to the Phi Tau Phi Honor Society
- Elected to serve as the Valedictorian; Served as the Class President for four years

Experience

Scene Understanding/GenAI – Research Intern *Sunnyvale, United States*
Bosch Center for Artificial Intelligence *May 2025 – present*

- Proposed a 3D-aware 360° video diffusion framework that leverages an explicit point cloud cache to ensure geometric consistency and precise trajectory control for digital twin generation.
- Engineered a diffusion-based planning system with DINOv2 perception, enabling robust zero-shot generalization in challenging environments.

Research Assistant *Los Angeles, United States*
University of Southern California *Aug 2024 – present*

- Joined Prof. Yue Wang's laboratory, engaged in research spanning 3D reconstruction, diffusion models, and humanoid robotics, including joint research with Bosch Center for Artificial Intelligence.

Research Assistant *Hsinchu, Taiwan*
National Yang Ming Chiao Tung University *Jan 2024 – June 2024*

- Entered Prof. Yu-Lun Liu's laboratory and led a Google-sponsored industry-academia collaboration project.
- Successfully published a paper as the first author at **NeurIPS 2024** within five months.
- Collaborated with MediaTek to develop the first Zero-Shot Video Restoration framework utilizing diffusion-based image restoration models.

R&D Engineer *Taipei, Taiwan*
Foxconn, Hon Hai Precision Industry *July 2023 – Dec 2023*

- Developed the company's first patented ECG waveform recognition system within three months, integrating cutting-edge AI, computer vision, and signal processing technologies.
- Engineered scalable Django APIs and ETL pipelines for automated data preprocessing and model serving, facilitating seamless system integration.
- Served as a technical mentor for interns and represented the company at medical conferences.

Publications (*: equal contribution)

Pantheon360: Taming Digital Twin Generation via 3D-Aware 360° Video Diffusion *under review*

- *Ting-Hsuan Chen**, Ying-Huan Chen*, Tao Tu, Jie-Ying Lee, Cho-Ying Wu, Fangzhou Lin, Hengyuan Zhang, David Paz, Xinyu Huang, Yuliang Guo, Yu-Lun Liu, Yue Wang, Liu Ren

Dino-Diffusion Modular Designs Bridge the Cross-Domain Gap in Autonomous Parking *under review*

- Zixuan Wu, Hengyuan Zhang, *Ting-Hsuan Chen*, Yuliang Guo, David Paz, Xinyu Huang, Liu Ren

NaRCan: Natural Refined Canonical Image with Integration of Diffusion Prior for Video Editing *NeurIPS 2024*

- *Ting-Hsuan Chen*, Jiewen Chan, Hau-Shiang Shiu, Shih Han Yen, Changhan Yeh, Yu-Lun Liu
- I am also a recipient of the NeurIPS 2024 Scholar Award

DiffIR2VR-Zero: Zero-Shot Video Restoration with Diffusion-based Image Restoration Models *arXiv 2024*

- Changhan Yeh, Chin-Yang Lin, Zhixiang Wang, Chi-Wei Hsiao, *Ting-Hsuan Chen*, Yu-Lun Liu