Teng-Fang Hsiao (蕭登方)

Computer Vision, Image Generation, Image Editing, Training-Free Model Modification, AI Security

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CURRENT & FUTURE RESEARCH

I am an enthusiastic student in the field of computer vision, with a particular focus on generative AI. Over the past year, I have been actively conducting research in this area.

I am an open-minded and independent researcher, capable of exploring both established topics (e.g., physical adversarial attacks) and innovative directions (e.g., training-free modifications of pre-trained diffusion models).

Currently, my research centers on enhancing the behavior of image generation models. I am developing training-free frameworks that integrate external, retrieval-augmented (RAG) information into state-of-the-art text-to-image (T2I) models.

I am eager to collaborate on projects that advance image, video, or 3D generation.

PUBLICATIONS

- **(Under review)** TF-TI2I: Training-Free Text-and-Image-to-Image Generation via Multi-Modal Implicit-Context Learning in Text-to-Image Models
  Teng-Fang Hsiao, Bo-Kai Ruan, Yi-Lun Wu,Tzu-Ling Lin, Hong-Han Shuai (Mar. 2024)
  keywords: text-to-image generation, training-free, text-and-image-to-image diffusion model

- **(Under review)** FreeCond: Free Lunch in the Input Conditions of Text-Guided Inpainting
  Teng-Fang Hsiao, Bo-Kai Ruan, Sung-Lin Tsai, Yi-Lun Wu, Hong-Han Shuai (Nov. 2024)
  keywords: Inpainting, text-to-image generation, training-free, diffusion model

- **(AAAI'25)** Training-and-Prompt-Free General Painterly Harmonization via Zero-Shot Disentenglement on Style and Content References
  Teng-Fang Hsiao, Bo-Kai Ruan, Hong-Han Shuai (Apr. 2024)
  keywords: Painterly harmonization, image generation, training-free, diffusion model

- **(WACV'24)** Natural Light Can Also be Dangerous: Traffic Sign Misinterpretation Under Adversarial Natural Light Attacks
  Teng-Fang Hsiao, Bo-Lun Huang, Zi-Xiang Ni, Yan-Ting Lin, Hong-Han Shuai, Yung-Hui Li, Wen-Huang Cheng (2023)
  keywords: Physical adversarial attack, image classification, image generation

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EDUCATION

Bachelor of Electrical and Computer Engineering   **Sep. 2020 - Aug. 2024**
National Yang Ming Chiao Tung University

- GPA: 3.93/4.3 (109/252)

(Currently) Master in Electrical and Computer Engineering   **Sep. 2024 - Jul. 2025 (Estimated)**
National Yang Ming Chiao Tung University
Master Degree Advisor: Hong-Han Shuai (帥宏翰)

- GPA: NA

INDUSTRIAL PROJECT

- **(NICS 國家資通安全研究院)** Evaluate robustness of object detection models toward physical adversarial attack
  Teng-Fang Hsiao, Hung-Jen Chen, Hong-Han Shuai (Nov. 2023 - Nov. 2024)

AI SKILLS

Besides common related research skills (e.g. pytorch, algorithm). I am also apply following technique in my previous research.

- Building interactive UI for AI applications, which can be found in my github.
- Visualizing the internal features and activation of generative models.
- Designing customized dataset and evaluation metrics.