

Ting Hsuan Liao

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“The only stupid question is the one you were afraid to ask but never did.”

Education

University of Maryland

PH.D IN COMPUTER SCIENCE

Advisor: Prof. [Jia-Bin Huang](#)

Overall GPA: 4.0 / 4.0

College Park, US

Sept. 2022 ~ June 2027 (exp.)

National Tsing Hua University

B.S. IN COMPUTER SCIENCE

Advisor: Prof. [Chun-Yi Lee](#)

Overall GPA: 4.17 / 4.30, cumulative ranking: 9/142

Hsinchu, Taiwan

Sept. 2018 ~ June 2022

Experience

Adobe Research | Research Intern

Mentors: Uttaran Bhattacharya, Chun-Hai Huang, Yi Zhou, Yu Shen, Saayan Mitra

Design new algorithms for text to human motion generation.

May 2024 ~ Present

Intel Corporation | Research Intern

Mentors: Ilke Demir, Sainan Liu

Design new algorithms for texture synthesis for 3D scene.

June 2023 ~ Dec. 2023

ELSA Lab at National Tsing Hua University | Undergraduate Research Assistant

Mentors: Chun-Yi Lee

Conduct research toward Computer Vision (CV) and Reinforcement Learning (RL). (BMVC 2022, CVPRW 2022, IROS, 2022)

Spring 2020 ~ Spring 2022

Research Experience

VividDream: Generating 3D Scene with Ambient Dynamics

- Yao-Chih Lee, Yi-Ting Chen, Andrew Wang, **Ting-Hsuan Liao**, Brandon Y. Feng, Jia-Bin Huang, under review.
- Propose new pipeline for 4D generation.

Text-driven Visual Synthesis with Latent Diffusion Prior

- **Ting-Hsuan Liao**, Songwei Ge, Yiran Xu, Yao-Chih Lee, Badour AlBahar, Jia-Bin Huang, under review.
- Propose to *reshape* the noise prediction loss and derive a high-resolution multi-level feature matching loss.
- Demonstrate the efficacy of our approach on three different applications, text-to-3D, StyleGAN adaptation, and layered image editing.

ELDA: Using Edges to Have an Edge on Semantic Segmentation Based UDA

- **Ting-Hsuan Liao**, Huang-Ru Liao, Shan-Ya Yang, Jie-En Yao, Li-Yuan Tsao, Hsu-Shen Liu, Chen-Hao Chao, Bo-Wun Cheng, Chia-Che Chang, Yi-Chen Lo, Chun-Yi Lee, in *British Machine Vision Conference (BMVC 2022, CVPRW 2022)*.
- Introduce a novel framework takes edge prediction as auxiliary task to improve UDA segmentation performance.

Investigation of Factorized Optical Flows as Mid-Level Representations

- Hsuan-Kung Yang, Tsu-Ching Hsiao, **Ting-Hsuan Liao**, Hsu-Shen Liu, Li-Yuan Tsao, Tzu-Wen Wang, Shan-Ya Yang, Yu-Wen Chen, Huang-Ru Liao, Chun-Yi Lee, in *International Conference on Intelligent Robots and Systems (IROS 2022)*.
- Research on the pros and cons on optical flow toward Reinforcement Learning process.

Pixel-Wise Prediction based Visual Odometry via Uncertainty Estimation

- Hao-Wei Chen, **Ting-Hsuan Liao**, Hsuan-Kung Yang, Chun-Yi Lee, in *Winter Conference on Applications of Computer Vision (WACV 2023)*.
- Introduces pixel-wise prediction based visual odometry (PWVO), which is a dense prediction task that evaluates the values of translation and rotation for every pixel in its input observations.

Sim-to-Real: Autonomous Driving with Unsupervised Domain Adaptation

- Demo website: [Sim-to-Real](#)
- Implemented UDA model on a ClearPath Husky AGV equipped with an NVIDIA Xavier board to reality in university campus.

Honors & Awards

2022	Dean’s Fellowship for Incoming Ph.D Student of University of Maryland,
2021	Computer Science Senior Project Contest - Finalists, 12 out of 77 teams
2021	National Scholarship of Pan Wen-Yuan Foundation, 12 out of the country
2021	Interscholastic Innovation Game Design Competition - Best Presentation, 1 out of 42 teams
2021-2019	(2022 Spring / 2021 Spring / 2020 Fall / 2020 Spring / 2019 Spring) Academic Excellence Award , top 5% of class
2021	Scholarship for EECS Excellent Students, 6 out of 144 students

Service

2024	Reviewer, CVPR, ECCV
2022	Reviewer, ECCV

Teaching

Computer Vision at UMD Teaching Assistant	<i>Spring 2023</i>
Discrete Structures at UMD Teaching Assistant	<i>Fall 2022</i>
Introduction to Data Science at UMD Teaching Assistant	<i>Fall 2020 and Fall 2021</i>
Logic Design Laboratory at NTHU Teaching Assistant	<i>Fall 2020 and Fall 2021</i>
National Tsing Hua University Academic Counselor	<i>Spring 2021</i>