

# 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

### Complete 4D Capture of Animals in the Wild

- Work done under the supervision of Prof. Jia-Bin Huang, under review.
- Solving 4D reconstruction problem with generative prior.

### Shape My Moves: Text-Driven Shape-Aware Synthesis of Human Motions

- **Ting-Hsuan Liao**, Yi Zhou, Yu Shen, Chun-Hao Paul Huang, Saayan Mitra, Jia-Bin Huang, Uttaran Bhattacharya (**CVPR 2025**).
- Propose new task and framework to generate shape-aware human motion.

### 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.
- 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

- Implemented UDA model on a ClearPath Husky AGV equipped with an NVIDIA Xavier board to reality in university campus.

## Honors & Awards

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

## Service

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2025	<b>Reviewer</b> , CVPR
2024	<b>Reviewer</b> , CVPR, ECCV
2022	<b>Reviewer</b> , ECCV

## Teaching

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### Computer Vision at UMD

Teaching Assistant

Spring 2024

### Discrete Structures at UMD

Teaching Assistant

Fall 2023

### Introduction to Data Science at UMD

Teaching Assistant

Fall 2022 and Spring 2023

### Logic Design Laboratory at NTHU

Teaching Assistant

Fall 2020 and Fall 2021

### National Tsing Hua University

Academic Counselor

Spring 2021