Chen, Yi-Ting

Email LinkedIn Google Scholar GitHub Website

Education

- **University of Maryland** — **College Park, MD, United States**
  Ph.D. in Computer Science - Dean's fellowship — Aug 2021 - May 2026
- **Carnegie Mellon University - School of Computer Science** — **Pittsburgh, PA, United States**
  Master in Engineering — Dec 2020
- **National Taiwan University - Graduate Institute of Electronics Engineering** — **Taipei, Taiwan**
  Master in Electronics Engineering — Oct 2016
- **National Cheng Kung University** — **Tainan, Taiwan**
  Bachelor in Electrical Engineering | Industrial and Information Management, double major — Jun 2013

Publication

- **UrbanIR: Large-Scale Urban Scene Inverse Rendering from a Single Video** Website Paper
  Zhi-Hao Lin, Bohan Liu, **Yi-Ting Chen**, David Forsyth, Jia-Bin Huang, Anand Bhattad, Shenlong Wang.
  International Conference on 3D Vision (3DV), 2025
- **Shape-aware Text-driven Layered Video Editing** Website Paper
  Yao-Chih Lee, Ji-Ze Jang, **Yi-Ting Chen**, Elizabeth Qiu, Jia-Bin Huang
  IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2023
- **Multimodal Object Detection via Probabilistic Ensembling (Oral)** Paper Video
  Yi-Ting Chen*, Jinghao Shi*, Zelin Ye*, Christoph Mertz, Deva Ramanan, Shu Kong
  IEEE Conference on European Conference on Computer Vision (ECCV), 2022
- **FSA-Net: Learning Fine-Grained Structure Aggregation for Head Pose Estimation from a Single Image**
  Tsun-Yi Yang, **Yi-Ting Chen**, Yen-Yu Lin, Yung-Yu Chuang Paper
  IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019
- **SRIANN: Sphere Ring Intersection for Approximate Nearest Neighbor Search in Videos** Paper
  Yi-Ting Chen, Wei-Chih Tu, Shao-Yi Chien
  IEEE International Conference on Image Processing (ICIP), 2018
- **Fast Video Super-Resolution via Approximate Nearest Neighbor Search (Oral)** Paper
  Yi-Ting Chen, Wei-Chih Tu, Shao-Yi Chien
  IEEE International Conference on Image Processing (ICIP), 2016

Preprint / In submission

- **VividDream: Generating 3D Scene with Ambient Dynamics** Website Paper
  Yao-Chih Lee, **Yi-Ting Chen**, Andrew Wang, Ting-Hsuan Liao, Brandon Y. Feng, Jia-Bin Huang
  In submission.

Industry Experiences

Apple — **Seattle, WA, United States**
Research Scientist Intern — *May 2024 - Sep 2024*
- High resolution rendering with low resolution inputs for 3D scenes.

Meta — **Burlingame, CA, United States**
Research Scientist Intern, 3D Computer Vision/Machine Learning — *Jun 2023 - Dec 2023*
- Proposed a scene-adaptive Neural Radiance Field (NeRF) for enhanced scene optimization.

Meta **Burlingame, CA, United States**
Research Scientist Intern, 3D Computer Vision/Machine Learning *May 2022 - Nov 2022*
- Proposed to edit a Neural Radiance Field (NeRF) from a single image.
- Enabled object insertion, removal, and editing, as well as scene stylization through the proposed algorithm.

Argo AI **Pittsburgh, PA, United States**
Software Engineer Intern *May 2021 - Aug 2021*
- Conducted research on multimodal late fusion for object detection.

Amazon **Pittsburgh, PA, United States**
Applied Scientist Intern *May 2020 - Aug 2020*
- Developed deep network for 3D object detection algorithm with 2D feature aided for more accurate detection by Pytorch.
- Achieved **3** percent improvement on mean average precision(mAP) with proposed method.

Mediatek **Taipei, Taiwan**
Software Engineer, Multimedia Division *Oct 2016 - May 2018*
- Established algorithm to enhance image/video contrast that works with low computational cost and high flexibility for smart phone chips.
- Developed a scene recognition algorithm to assist with camera auto-exposure and auto-white-balance functions, raising the correctness of color assignment.
- Implemented a universal auto-white-balance calibration approach that eliminated the difference between different modules, saving time for module calibration.

Research Experiences

Carnegie Mellon University, with Prof. Deva Ramanan **Pittsburgh, PA, United States**
MSCV Capstone, Multimodal Object Detection for Autonomous Driving *Jan 2020 - Nov 2021*
- Developed different fusion strategies for multimodal object detection with Convolutional Neural Networks (CNN) in applications of autonomous driving using Pytorch.
- Outperformed prior works by **13** percent in relative performance with proposed Baysian late fusion.
- Collected data of infrared sensor and RGB sensor for autonomous driving applications at different scenarios.

Academia Sinica, with Prof. Yen-Yu Lin **Taipei, Taiwan**
Research Assistant *Aug 2018 - Jul 2019*
- Utilized fine-grained structure of face in feature space for accurate head pose estimation, resulting in a fast and compact CNN model.
- Disentangled the information of image style and person classification features for person re-identification, and verified the disentanglement with cycle consistency of Generative Adversarial Network (GAN) using Pytorch.

National Taiwan University with Prof. Shao-Yi Chien **Taipei, Taiwan**
Graduate Research Assistant *Sep 2013 - Oct 2016*
- Accelerated video super-resolution framework via approximate nearest neighbor search, achieving an acceleration rate 20 times faster with MATLAB.
- Parallelized ANN search algorithm with CUDA to achieve higher search accuracy and increased the computation speed over state-of-the-art video ANN search algorithm.

Skills

Programming: Python, C/C++, PyTorch
Toolkit: OpenCV, LaTeX, Git