

Yu-Wen Tseng

📍 Taipei, Taiwan | 📞 (+886) 975-370-239 | ✉️ d12922018@csie.ntu.edu.tw
🌐 Website | 🐙 GitHub | 🔗 LinkedIn | 📄 Google Scholar

RESEARCH INTERESTS

My research focuses on **3D machine perception** for autonomous driving, with a core interest in **semantic occupancy prediction** and volumetric scene completion. I study how models can recover a dense, semantically-labeled 3D representation of the environment from sparse or partial observations — a capability critical for safe and reliable autonomous navigation. Beyond scene understanding, I am further interested in **robust perception** under real-world distribution shifts, exploring test-time adaptation as a practical path to continuous model improvement without retraining from scratch.

EDUCATION

National Taiwan University (NTU)

Ph.D. in Computer Science and Information Engineering · GPA: 4.03 / 4.30

- AIMM Research Group @ CMLab, Advisor: Prof. Wen-Huang Cheng
- Research: Semantic Occupancy Prediction for Autonomous Driving

Taipei, Taiwan
Sep. 2023 – Present

National Yang Ming Chiao Tung University (NYCU)

M.S. in Institute of Electronics · GPA: 3.99 / 4.30

- Thesis: Language-Guided Negative Sample Mining for Open-Vocabulary Object Detection

Hsinchu, Taiwan
Sep. 2021 – Jun. 2023

National Yang Ming Chiao Tung University (NYCU)

B.S. in Electrical Engineering and Computer Science · GPA: 3.44 / 4.30

Hsinchu, Taiwan
Sep. 2017 – Jun. 2021

PUBLICATIONS

Journal Articles

- [1] H. I. Liu, **Y.-W. Tseng**, K. C. Chang, P. J. Wang, H. H. Shuai, and W.-H. Cheng. “A DeNoising FPN with Transformer R-CNN for Tiny Object Detection.” *IEEE Trans. Geoscience and Remote Sensing*, 2024. 📄 🌐

Conference Proceedings

- [1] J.-Y. Jiang-Lin, K.-Y. Huang, L. Zou, L. Lo, S.-P. Yang, **Y.-W. Tseng**, K.-H. Lin, C.-L. Chen, Y.-T. Ta, Y.-T. Wang, P.-C. Chen, H.-X. Xie, H.-H. Shuai, and W.-H. Cheng. “TriDF: Evaluating Perception, Detection, and Hallucination for Interpretable DeepFake Detection.” *CVPR 2026*. 📄 🌐
- [2] K.-H. Lin, **Y.-W. Tseng**, K.-Y. Huang, J.-C. Wu, and W.-H. Cheng. “InstructFLIP: Exploring Unified Vision-Language Model for Face Anti-spoofing.” *ACMMM 2025*. 📄 🌐 🔄
- [3] S.-P. Yang, **Y.-W. Tseng**, Y.-C. Yang, I.-B. Liao, C.-E. Huang, S.-H. Liu, Y.-H. Li, J.-C. Wu, H.-H. Shuai, and W.-H. Cheng. “Unraveling Vanishing Point and Calibrating Tiny Object for Semantic Scene Completion.” *ICIP 2025*.
- [4] **Y.-W. Tseng**, S.-P. Yang, J.-C. Wu, I.-B. Liao, Y.-H. Li, H.-H. Shuai, and W.-H. Cheng. “Memory-augmented Re-completion for 3D Semantic Scene Completion.” *AAAI 2025*. 📄 🌐
- [5] H.-X. Xie, C.-J. Peng, **Y.-W. Tseng**, H.-J. Chen, C.-F. Hsu, H.-H. Shuai, and W.-H. Cheng. “EmoVIT: Revolutionizing Emotion Insights with Visual Instruction Tuning.” *CVPR 2024*. 📄 🌐
- [6] **Y.-W. Tseng**, H.-H. Shuai, C.-C. Huang, Y.-H. Li, and W.-H. Cheng. “Language-Guided Negative Sample Mining for Open-Vocabulary Object Detection.” *ICEIC 2024*. 📄
- [7] W.-H. Ke, **Y.-W. Tseng**, and W.-H. Cheng. “Task-Specific Pruning: Efficient Parameter Reduction in Multi-task Object Detection Models.” *APSIPA ASC 2023*.

Under Review

- [1] **Y.-W. Tseng**, X. Zheng, Y.-C. Wu, I.-B. Liao, Y.-H. Li, H.-H. Shuai, and W.-H. Cheng. “One Pool Is Not Enough: Multi-Cluster Memory for Test-Time Adaptation.” *ECCV 2026 (under review)*.

HONORS & AWARDS

- Epon Innovation Contest Finalist, *Epon* Taipei, Taiwan, 2025
- Ministry of Education Ph.D. Scholarship (NTD 40,000 / month), *Ministry of Education* Taipei, Taiwan, 2024
- Hon Hai Technology Award (NTD 250,000), *Foxconn Education Foundation* New Taipei, Taiwan, 2024
- FamilyMart AI Scholarship, *FamilyMart* New Taipei, Taiwan, 2023

PROFESSIONAL ACTIVITIES

- **Journal Reviewer:** IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- **Conference Reviewer / Program Committee:** ICLR, NeurIPS, CVPR, ECCV, AAAI, ACML, ACMMM

SKILLS

- **Programming Languages:** Python, C++, MATLAB, SQL
- **Frameworks & Libraries:** PyTorch, TensorFlow, OpenCV, ROS
- **Tools & Platforms:** Git, Linux, Docker, LaTeX