

Cheng-Yuan Wu

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Education

National Tsing Hua University, MS in Computer Science 2023 – 2025 (Expected)

- **Advisor:** Prof. Cheng-Hsin Hsu
- **GPA:** 4.01/4.3
- **Thesis topic:** Optimally Planning Drone Trajectory to Capture a 3D Gaussian Splatting Object

National Taiwan Ocean University, BS in Computer Science 2019 – 2023

Research Interests

Drone (Unmanned Aerial Vehicle, UAV), 3D Reconstruction, Autonomous Navigation, and Wireless Networks

Skills

Programming: Python, C, C++, C#, MATLAB, Verilog, HTML/CSS, PHP, Assembly

Libraries/Toolkits: ROS, ZeroMQ, NS-3, OpenCV, PyTorch, TensorFlow, OpenGL, Flask, MySQL

Others: GNU/Linux(Ubuntu), Git, Gazebo, Unity, \LaTeX

Experience

Ambient Intelligence for Immersive Networked Systems Lab, National Tsing Hua University – Hsinchu, Taiwan July 2023 – Present

Research Assistant

Advisor: Prof. Cheng-Hsin Hsu

- Conducted extensive research in drone and wireless network, contributing to multiple projects:
 - Standards and Technical Report for Drone Swarms (Joint work with **ITRI**)
 - Enabling Network Simulation in Robotic Simulator (Joint work with **UCI**)
 - Optimally Planning Drone Trajectory to Capture a 3DGS Object

Publications

[1] **Optimally Planning Drone Trajectory to Capture a 3D Gaussian Splatting Object**

Cheng-Yuan Wu, Yuan-Chun Sun, Cheng-Tse Lee, and Cheng-Hsin Hsu

International Conference on Multimedia Modeling (MMM'25)

Nara, Japan, January 2025

- Proposed a framework for capturing and constructing 3DGS on-the-fly
- Optimized the drone trajectories for optimal synthesized views of 3DGS
- Developed testbed enable to perform realistic physics effects and photo-realistic rendering

[2] **Standards for Drone Swarm Collaboration and Application Services System**

Chih-Wei Hsu, Cheng-Hsin Hsu, *Cheng-Yuan Wu*, and Cheng-Tse Lee

Taiwan Association of Information and Communication Standards (TAICS)

- Standardized the drone message format enables communication between drones across different platforms

[3] **Technical Report for Collaborative Operation and Management of Drones**

Chih-Wei Hsu, Cheng-Hsin Hsu, Tun-Chi Tsai, *Cheng-Yuan Wu*, and Shih-Ying Hung

Taiwan Association of Information and Communication Standards (TAICS)

- Organized the international standards of drone swarms