Tzu-Hsien Tsai

tsai.tzuhsien0705@gmail.com

(+886)-905-393-716

EDUCATION

National Taiwan University — *Sep. 2024 – Present*
Master of Science in Computer Science — Taipei, Taiwan (R.O.C.)

National Taiwan University — *Sep. 2019 – Jun. 2023*
Bachelor of Science in Computer Science — Taipei, Taiwan (R.O.C.)
Overall GPA: 3.99

PUBLICATIONS

- M.-Y. Chiang, T.-H. Tsai, D.-Y. Hong, P. Liu, and J.-J. Wu, Optimizing Pipeline Parallelism for Deep Learning with Activation Checkpointing, to appear in *13th International Symposium on Computing and Networking (CANDAR)*, 2025.

- D.-Y. Hong, T.-H. Tsai, N. Wang, P. Liu, and J.-J. Wu, GPU Memory Usage Optimization for Backward Propagation in Deep Network Training, *Journal of Parallel and Distributed Computing (JPDC)*, 199:105053, 2025.

- C.-F. Lin, D.-Y. Hong, P. Liu, J.-J. Wu and T.-H. Tsai, A Grouping Algorithm for Training Tree-Shaped Models on Multiple GPUs with High Efficiency, in *IEEE 49th Annual Computers, Software, and Applications Conference (COMPSAC)*, July 8–11, 2025, Toronto, ON, Canada, pages 1595–1600, 2025.

- Y.-D. Tsai, T.-H. Tsai, and S.-D Lin, Differentiable Good Arm Identification, in *29th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, June 10–13, 2025, Sydney, NSW, Australia, pages 253–264, 2025.

- T.-H. Tsai, Y.-D. Tsai, and S.-D. Lin, Lil'HDoC: An Algorithm for Good Arm Identification under Small Threshold Gap, in *28th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, May 7–10, 2024, Taipei, TW, Taiwan, pages 78–89, 2024.

WORK EXPERIENCE

DeepHow Inc. — *Aug. 2021 – Feb. 2022, Feb. 2023 – Jun. 2023*
AI Researcher — *Online*

- Enhance the system that segments how-to videos into individual steps.
- Enhance the quality of subtitles in how-to videos.
- Create the Standard Operating Procedure (SOP) and flowchart automatically based on the manuscript outlining the work process.

TEACHING EXPERIENCE

C Programming — Sep. 2024 – Feb. 2025
Teaching Assistant — *National Taiwan Univerity*

- Design the weekly on-computer quiz.

Calculus — Sep. 2024 – Jun. 2025, Sep. 2025 – Dec. 2025
Teaching Assistant — *National Taiwan Univerity*

- Lecture the problem-solving course and hold the office hours.

Beauty of Mathematics   Feb. 2022 – Feb. 2023
Teaching Assistant   *National Taiwan Univerity*

· Grade the exam and hold the office hours.
· Students' feedback from Feb. 2022 to Jun. 2022
· Students' feedback from Sep. 2022 to Feb. 2023

AWARDS

Dean's List Award   Sep. 2019 – Feb. 2020