WEI-WEI DU

+81 70 8583 0233 ⬦ wwdu@gapp.nthu.edu.tw ⬦ [LinkedIn](#) ⬦ [GitHub](#)

WORK EXPERIENCE

Applied Research Scientist   Oct 2023 - Recent
Sony   *Tokyo, Japan*

- Develop **off-policy evaluation** pipelines to assess and improve recommender system performance, reducing the cost and risk of online A/B testing for a streaming platform with **100M+ monthly active users**.
- Lead research on **LLM-based recommender systems** for next-generation fan engagement. (first-author paper accepted at RecSys 2025)
- Collaborate with global R&D teams to deliver solutions across movies, gaming, music, and e-commerce.

Student Researcher   Jul 2021 - Jun 2023
National Yang Ming Chiao Tung University   *Hsinchu, Taiwan*

- Built a neighbor relation graph learning framework for real estate appraisal at E.SUN bank to reduce the appraiser's workload by about 80%.
- Applied explainable techniques to analyze the model behavior which helps the appraiser understand the model.
- Led a 3-member team, cooperated with the engineering team, and helped deploy the model to production.

Machine Learning Scientist Intern   Jun 2022 - Nov 2022
Appier   *Taipei, Taiwan*

- Implemented an ensemble real-time bidding model with new data-driven features from 10M+ e-commerce click-stream events, achieving 2x performance improvement in production.
- Conducted tree analysis and feature importance with SHAP to analyze model behavior.
- Cooperated with 3 data scientists to build the RTB model for re-engagement campaigns.

PUBLICATIONS

Wei-Wei Du, Takuma Udagawa, Kei Tateno, "Not Just What, But When: Integrating Irregular Intervals to LLM for Sequential Recommendation", **RecSys 2025 Spotlight** [Paper][Code] (acceptance rate: 20.5 %)

Wei-Wei Du, Yung-Chien Wang, Wen-Chih Peng, "EXPRESS: An LLM-Generated Explainable Property Valuation System with Neighbor Imputation", Preprint [Paper][Code]

Wei-Yao Wang, **Wei-Wei Du**, Derek Xu, Wei Wang, Wen-Chih Peng, "A Survey on Self-Supervised Learning for Non-Sequential Tabular Data", **ACML 2024** [Paper][Repo] (acceptance rate: 29.5 %)

Wei-Yao Wang, **Wei-Wei Du**, Wen-Chih Peng, Tsi-Ui Ik, "Benchmarking Stroke Forecasting with Stroke-Level Badminton Dataset", **IJCAI 2024 Demo** [Paper][Code]

Wei-Wei Du, Wei-Yao Wang, Wen-Chih Peng, "DoRA: Domain-Based Self-Supervised Learning Framework for Low-Resource Real Estate Appraisal", **CIKM 2023** [Paper][Blog][Code] (acceptance rate: 24.0 %)

Chih-Chia Li, Wei-Yao Wang, **Wei-Wei Du**, Wen-Chih Peng, "Look Around! A Neighbor Relation Graph Learning Framework for Real Estate Appraisal", **PAKDD 2024, AAAI 2023 MUFin Workshop [Best Paper Award]** [Paper][Blog]

Wei-Wei Du, Hong-Wei Wu, Wei-Yao Wang, Wen-Chih Peng, "Team Triple-Check at Factify 2: Parameter-Efficient Large Foundation Models with Feature Representations for Multi-Modal Fact Verification", **AAAI 2023 Defactify Workshop** [Paper][Blog][Code]

Wei-Yao Wang, **Wei-Wei Du**, Wen-Chih Peng, "RecFormer: Personalized Temporal-Aware Transformer for Fair Music Recommendation", **CIKM 2022 EvalRS Workshop** [Paper][Code]

Wei-Wei Du*, Yu-Chien Tang*, Wei-Yao Wang*, Wen-Chih Peng, "NYCU_TWD@LT-EDI-ACL2022: Ensemble Models with VADER and Contrastive Learning for Detecting Signs of Depression from Social Media", **ACL 2022 LT-EDI Workshop** (*indicates equal contribution) [Paper][Blog][Code]

EDUCATION

Master of Data Science and Engineering, National Yang Ming Chiao Tung University   Aug 2021 -
Advanced Database System Lab (Advisor: Prof. Wen-Chih Peng)   Jun 2023
Research Interests: Recommender System, Natural Language Processing, Explainable AI, Self-supervised Learning

Bachelor of Quantitative Finance and Computer Science, National Tsing Hua University   Sep 2017 -
Data Lab (Advisor: Prof. Shan-Hung Wu)   Jun 2021
Relevant Coursework: Natural Language Processing, Deep Learning, Machine Learning, Statistical Learning, Database System, Algorithm, Data Structure

SERVICES

Invited Speaker	RecSys 2025 Workshop on Evaluating and Applying Recommender Systems with LLMs
Program Committee	WWW 2026, CIKM 2025, CIKM 2024, CIKM 2023, LT-EDI-ACL 2022 @ ACL 2022
Organizer	Workshop on IT4PSS @ IJCAI 2024, IJCAI 2023 [Site]
	CoachAI Badminton Challenge @ IJCAI 2023 [Site]

HONORS

1st Place in Multi-Modal Fact Checking @ AAAI'23 Workshop   Dec 2022

- Introduced a parameter-efficient large foundation model by utilizing adapters and additional features.
- Incorporated co-attention modules for different modalities (image and text) and different types (claim and document).
- Surpassed 25.9% compared with the official baseline.

4th Place in A Rounded Evaluation of Recommender Systems @ CIKM'22 Data Challenge   Sep 2022

- Built a GPU-free customizable-driven framework for fairness music recommendation.
- Designed an evaluation matric Miss Rate - Inverse Ground Truth Frequency (MR-ITF) to measure fairness.
- Outperformed the baselines by at least 197% and was selected as an oral presentation at the conference.

2nd Place in Detecting Signs of Depression from Social Media Text @ ACL'22 Workshop   Feb 2022

- Developed an ensemble model with VADER and contrastive learning for detecting depression.
- Won second place in 30+ teams without any auxiliary information.

3rd Place and National Judges Award in Legal-tech Hackathon   Sep 2021

- Proposed an NLP-based judgment recommendation algorithm that outperformed the current system by about 50%.
- Led an interdisciplinary team, our solution can help over 3,500 National Judges per year.

4th Place in Fake-EmoReact Challenge, SocialNLP @ NAACL'21 Workshop   Jun 2021

- Compared the BERT-based model with the RNN-based model to detect fake news tweets.
- Used 5+ preprocessing techniques and ensemble strategies to improve our performance.

SKILLS

ML/AI	Recommender Systems, LLMs, Self-Supervised Learning, NLP
Programming	Python, Linux, Shell, R, SQL, PySpark, Java, C++
Language	English (Full Professional Proficiency), Mandarin (Native), Japanese (Basic)