Chan Hsu

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I am a doctoral student specializing in machine learning (ML), with particular emphasis on causality and interpretability. I also focus on applying ML to help make decisions in high-stakes domains like healthcare. I aim to pursue a Ph.D. to further innovate in machine learning and improve solutions to practical challenges in healthcare and other domains.

Education

National Sun Yat-sen University — *Kaohsiung, Taiwan*
Ph.D. student — *Sep 2022 - Now*
Advisor: Prof. Yihuang Kang
Research Interest: Statistical Machine Learning, Interpretability, Causality

National Sun Yat-sen University — *Kaohsiung, Taiwan*
M.S. in Information Systems — *Sep 2020 - Aug 2022*
Advisor: Prof. Yihuang Kang
Thesis: Interpretable Representation Learning with Model-based Deep Rule Forest

National Sun Yat-sen University — *Kaohsiung, Taiwan*
B.B.A. in Information Management — *Sep 2016 - Jun 2020*

Publications

Total Citations: 13 @Google Scholar

Journal Articles

J1. Shih-Yi Chien, Shiau-Fang Chao, Yihuang Kang, **Chan Hsu**, Meng-Hsuan Yu, Chan-Tung Ku. (2022). Understanding Predictive Factors of Dementia for Older Adults: A Machine Learning Approach for Modeling Dementia Influencers. International Journal of Human-Computer Studies (IJHCS).

Conference Proceedings

C1. Chih-Yuan Li, Jun-Ting Wu, **Chan Hsu**, Ming-Yen Lin, Yihuang Kang. (2024). Understanding eGFR Trajectories and Kidney Function Decline via Large Multimodal Models. Accepted by International Workshop on Big Data in Healthcare (BDH; in conjunction with IEEE MIPR).

C2. **Chan Hsu**, Jun-Ting Wu, Yihuang Kang. (2024). Causal Rule Forest: Toward Interpretable and Precise Treatment Effect Estimation. Accepted by IEEE IRI 2024.

C3. I-Ling Cheng, **Chan Hsu**, Pei-Ju Lee, Chan-Tung Ku, Yihuang Kang. (2024). Subgroup analysis via Model-based Rule Forest. Accepted by IEEE Workshop on AI for Healthcare (AIHC; in conjunction with IEEE IRI).

C4. Hei-Liam Chow, **Chan Hsu**, Shih-Yi Chien. (2024). Psychosocial Determinants of Dementia Progression: Insights from Advanced Data Analytics using the Taiwan Longitudinal Study in Aging. In IEEE International Conference on Human-Machine Systems (ICHMS).

C5. **Chan Hsu**, Wei-Chun Huang, Jun-Ting Wu, Chih-Yuan Li, Yihuang Kang. (2023). Toward Transparent Sequence Models with Model-Based Tree Markov Model. In IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR), Big Data in Healthcare workshop.

C6. **Chan Hsu**, Chan-Tung Ku, Yuwen Wang, Minchen Hsieh, Jun-Ting Wu, Yunhsiang Hsieh, PoFeng Chang, Yimin Lu, Yihuang Kang. (2023). A Teacher-Student Knowledge Distillation Framework for Enhanced Detection of Anomalous User Activity. In IEEE International Conference on Information Reuse and Integration for Data Science (IRI).

C7. **Chan Hsu**, Ching-Chih Tsao, Yu-Liang Weng, Cheng-Yi Tang, Yu-Wen Chang, Yihuang Kang, Shih-Yi Chien. (2022). A machine learning approach to model HRI research trends in 2010~ 2021. In ACM/IEEE International Conference on Human-Robot Interaction (HRI).

Experience

University Library Systems, University of Pittsburgh *Pittsburgh, PA, United States*
Summer Intern, East Asian Library *Aug 2024*
Supervised by Runxiao Zhu
Applying Large Language Models to digital archiving.

Kaohsiung Medical University *Kaohsiung, Taiwan*
Research Assistant *Jun 2021 - Jul 2025*
Supervised by Prof. Yi-Wen Chiu, Prof. Ming-Yen Lin, and Prof. Yi-Ting Lin
Personalized treatment recommendation, ML for CKD caring, multi-omics data analysis.

National Sun Yat-sen University *Kaohsiung, Taiwan*
Research Assistant *Mar 2020 - Jul 2023*
Supervised by Prof. Yihuang Kang.
Anomalous account activity detection, MLOps platform based on Kubernetes, Human-in-the-loop ML.

National Chengchi University *Taipei, Taiwan*
Research Assistant *Jun 2021 - Nov 2021*
Supervised by Prof. Shih-Yi Chien.
Topic modeling on HRI literature.

Services

Reviewers: IEEE IRI (2023, 2024), IEEE MIPR (2024), VAMR (2023).
Statistical Consultant at College of Management, NSYSU. (Aug 2022 - Now).

Teaching Assistant at NSYSU. (2021 Fall, 2022 Fall): MIS572 Introduction to Big Data Analytics
Teaching Assistant at NSYSU. (2021 Spring, 2022 Spring): MIS102 Computer Programming
Teaching Assistant at NSYSU. (2021 Spring): MIS985 Practical Business Analytics

Awards and Honors

IEEE TCMC Student Travel Support to present at IRI/MIPR *2024*
IEEE Computer Society. COMPETITIVE.
NSTC Travel Grant to present at IRI *2024*
National Science and Technology Council (NSTC), Taiwan. COMPETITIVE.
Liang Ting-Peng National Chair Professor Memorial Scholarship *2022, 2023*
Department of Information Management, NSYSU.
Elite Doctoral Student Scholarship *2022-2024*
A three-year scholarship co-funded by NSYSU and NSTC, Taiwan

References

Available on request