WORAWIT TEPSAN, Ph.D.

Work: Lecturer, International College of Digital Innovation (ICDI)
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Research Interests: Data Analysis, Machine Learning, Artificial Intelligence, Digital Technology, Applied Mathematics
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PUBLICATIONS

- **Han F., Tepsan W.** (2025). The impact of streamer social presence and professionalism on Food Live Streaming Purchase Intention: A model of moderated mediation. *Asia Pacific Journal of Marketing and Logistics*. https://doi.org/10.1108/APJML-01-2025-0151
- **Tepsan W., Phaphuangwittayakul A., Sokantika S., Harnpornchai N.** (2025). Identifying Hubs Through Influential Nodes in Transportation Network by Using a Gravity Centrality Approach. *Algorithms*, 18(6), 356. https://doi.org/10.3390/a18060356
- **Phiphatkunarnon P., Phanuphak N., Janamnuaysook R., Tran D., Neo B.-L., Tepsan W.** (2025). Comprehensive Analysis and Leveraging Online Innovations to Improve HIV and STI Prevention and Treatment Services in Major Cities of Thailand. *AIDS and Behavior*. https://doi.org/10.1007/s10461-025-04714-x
- **Lueangwitchajaroen P., Watcharapinchai S., Tepsan W., Sooksatra S.** (2024). Multi-Level Feature Fusion in CNN-Based Human Action Recognition: A Case Study on EfficientNet-B7. *Journal of Imaging*, 10(12), 320. https://doi.org/10.3390/jimaging10120320
- **Tepsan W., Sooksatra S., Lueangwitchajaroen P., Watcharapinchai S.** (2024). Adaptive body part ROI with triple stream approach for human action recognition. In *Proceedings of the 2024 21st International Joint Conference on Computer Science and Software Engineering (JCSSE)* (pp. 79–85). https://doi.org/10.1109/JCSSE61278.2024.10613745
- **Shu H., Dawod A.Y., Tepsan W., Mou L., Tang Z.** (2024). Multi-channel microseismic signals classification with convolutional neural networks. *IAES International Journal of Artificial Intelligence (IJ-AI)*, 13(1), 1038–1049. https://doi.org/10.11591/ijai.v13.i1.pp1038-1049
- **Shu H., Dawod A.Y., Mu L., Tepsan W.** (2023). A survey of machine learning applications in microseismic signal recognition and classification. In *Proceedings of the 15th International Conference on Software, Knowledge, Information Management and Applications (SKIMA)*, Kuala Lumpur, Malaysia (pp. 18–23). https://doi.org/10.1109/SKIMA59232.2023.10387351
- **Ran X., Zhou X., Lei M., Tepsan W., Deng W.** (2021). A novel K-means clustering algorithm with a noise algorithm for capturing urban hotspots. *Applied Sciences*, 11(23), 11202. https://doi.org/10.3390/app112311202
- **Blecher D.P., Tepsan W.** (2021). Real operator algebras and real positive maps. *Integral Equations and Operator Theory*, 93(5), 49. https://doi.org/10.1007/s00020-021-02665-1

ONGOING RESEARCH PROJECTS

- **AI Agent for Personalized Sexual Health Recommendations** – Developing an AI decision-support tool that provides individualized guidance on HIV prevention (PrEP) and broader sexual health practices tailored to patient risk profiles.
- **Human Action Recognition with Skeleton Databases (NECTEC Collaboration)** – Researching deep learning models (e.g., ST-GCN) to recognize and classify human activities from skeleton-based datasets.
- **Wound Segmentation, Area & Size Measurement** – Building a computer vision pipeline to automatically segment wounds and calculate healing-related metrics for digital health applications.
- **NurseBesties – AI Agent for Nursing Students** – Designing an AI assistant that helps nursing students practice diagnostic reasoning, patient interaction, and clinical decision-making.
- **Rice Straw Network Optimization** – Modeling and optimizing rice straw collection and logistics in Chiang Mai Province to reduce costs, minimize emissions, and support sustainable straw utilization.

ACADEMIC EXPERIENCES

- Coach of Team Optimizer in the Super AI Engineer Program Season 4 and 5 organized by the Artificial Intelligence Association of Thailand (AIAT). — 2024, 2025
- Training in Super AI Engineer Program Season 2 organized by Artificial Intelligence Association of Thailand (AIAT) — Nov 2021-Aug 2022
- Training in Agricultural Data Scientist Program organized by Faculty of Science and Industrial Technology, Prince of Songkla University, Surat Thani Campus — July 2022
- Co-Researcher: The study of growth poles of the Northern Economic Corridor Project, Thailand (Grant from the Ministry of Higher Education, Science, Research and Innovation, Thailand) — 2021
- PhD Thesis: Real Operator Spaces, Real Operator Algebras and Real Jordan Operator Algebras — 2020
- Master's degree Thesis: Triangular Mean-Value Functional Equation — 2012
- Senior Research: Algorithms for Solving Periodic Pentadiagonal Linear System and Inverting Periodic Pentadiagonal Matrices — 2010
- Mini Project: Algorithm for Finding Shortest path in Chiang Mai City — 2008

EMPLOYMENT

- Lecturer at International College of Digital Innovation, Chiang Mai University, Thailand — Dec 2020 - Current
- Special Expert at International College of Digital Innovation, Chiang Mai University, Thailand — Aug 2020 - Dec2020
- Teaching Assistance at University of Houston, TX, USA — 2015- 2020
- Tutor (Self Employed) for secondary and high school students in Math, BKK, Thailand — 2010- 2013
- Teaching assistance in Real Analysis (2010 term 1), Numerical Analysis (2010 term 2), and Calculus (2012 summer) at Chulalongkorn University, BKK, Thailand — 2010, 2012

EDUCATION

- PhD in Mathematics from University of Houston, Texas, USA — 2015-2020
- Studied for PhD in Mathematics but then moved to University of Houston Ohio University, Ohio, USA (did not graduate) — 2013-2015
- Master of Science in Mathematics from Chulalongkorn University, Bangkok, Thailand — 2010-2013
- Bachelor of Science in Mathematics (Minor in Computer Science) from Chiang Mai University, Chiang Mai, Thailand — 2006-2010

HONORS AND AWARDS

- Abroad fellowship from the Institute for the Promotion of Teaching Science and Technology Project (DPST), Ministry of Education, Thailand — 2013-2018
- Scholarship from Development and Promotion of Science and Technology Talents Project (DPST), Ministry of Education, Thailand — 2003-2013
- Scholarship from Junior Scientist Talent Project (JSTP), Thailand — 2007

SKILLS

Python and JavaScript, with experience in PyTorch, FastAPI, machine learning model training, and building generative AI applications using LLMs, including API integration, backend development, and deployment.