

Pokai Su

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EDUCATION

National Taipei University of Technology

Taipei, Taiwan

MS, Artificial Intelligence Technology

Thesis: A Prompt-Guided Foundation Segmentation Model Towards Accurate Vertebral Segmentation in OVCFs
GPA 3.88/4.0

National Yunlin University of Science and Technology

Yunlin, Taiwan

BS, Computer Science and Information Engineering

EMPLOYMENT

National Taipei University of Technology

Teaching Assistant

2023/02-2025/06

Courses: Data Structure, Linear Algebra

Research Assistant

2023/02-2025/11

Taipei Medical University Hospital

Research Assistant

2023/09-2025/06

RESEARCH EXPERIENCES

Research Interests:

Trustworthy AI, Medical Imaging, Foundation Models, Multimodal, Multitask Learning

Hyperspectral Imaging and Biomedical Research Lab

Advisors: Dr. HsiaoChi Li & Dr. HsinHan Chiang

Master's Research, National Taipei University of Technology

- Developed a prompt-guided segmentation framework for osteoporotic vertebral compression fractures (OVCFs).
- Designed algorithms to improve detection robustness by integrating anatomical priors.
- Achieved state-of-the-art performance in vertebral segmentation for OVCF patients, including challenging cases with implants such as vertebroplasty.
- Explored foundation model applications in medical imaging to enhance generalizability.

Undergraduate Research, National Yunlin University of Science and Technology

- Investigated computer vision and AI applications in stroke rehabilitation.
- Participated in projects involving image preprocessing and applied machine learning.
- Served as team captain in the Smart Manufacturing Big Data Analysis Competition.
- Developed reinforcement learning algorithms for the AI Racing Challenge.

AWARDS & HONORS

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| •Champion, AI Racing Challenge(University-level) | 2021 |
| •Champion, Innoserve AWS AI Racing Challenge | 2022 |
| •Finalist, National Smart Manufacturing Big Data Analysis Competition (IMBD) | 2022 |
| •Student 3MT Competition Finalist, The 17th Asia Pacific Signal and Information Processing Association (APSIPA) Annual Summit and Conference, Shangri-La, Singapore | 2025 |

PUBLICATIONS

As the first author

Po-Kai Su, Pei-Rong Jiang, Kai-Xuan Xu, Meng-Lei Su, Jiann-Her Lin, Hsin-Han Chiang, Hsiao-Chi Li*(2025) Prompt-Based Vertebral Segmentation Using a Generative AI Approach in OVCF Spinal Radiographs Asia Pacific Signal and Information Processing Association (APSIPA) Annual Summit and Conference

As a contributing author

Yu-Hsuan Yu, Po-Kai Su, Pei-Rong Jiang, Meng-Lei Su, Jiann-Her Lin, Hsiao-Chi Li(2024) Comparative Analysis of Structural Biomechanical and Textural Radiomics Features in Predicting Secondary Osteoporotic Vertebral Compression Fracture, Asia Spine 2024

Yu-Hsuan Yu, Po-Kai Su, Pei-Rong Jiang, Meng-Lei Su, Jiann-Her Lin, Hsiao-Chi Li (2024) Automatic Vertebrae Segmentation and Prediction of Secondary Fractures with Machine Learning Using Biomechanical Features and Radiomics, International Conference on Machine Learning and Cybernetics