Yu-chun Lin

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Education

Chung Shan Medical University

Sept.2023 - June.2025(expected)

M.S in Institute of Medicine, with minor in **Electrical Engineering**, National Chung Hsing University

- Rehabilitation: Applying EMG signal analysis using DNN to diagnose osteoporosis and sarcopenia.
- Psychiatry: Focus on neurodevelopmental childhood disorders.
- Cardiology: Learn about EKG, heart sound identification, cardiac ultrasound, and cardiac physics.
- Develop DRQN models to enhance real-time control of self-driving vehicles, ensuring superior accuracy.

Asia University

Sept.2019 – Jun.2023

B.S in Department of Medical Laboratory Science and Biotechnology with minor in **Computer Science**

Recent Publications

Conference papers: 7

Journal papers.

[1] C.Y. Cheng, **Y.C. Lin***, K.M. Chang, I.C. Chang, "AI Prediction System on Intradialytic Hypotension", *Submitted to JAMIA.* (Under review)

[2] **Y.C. Lin,** K.M. Chang*," Sarcopenia and Osteoporosis Evaluation based on Center of Pressure Derived Features", *Submitted to IEEE sensors.* (Under review)

Research Experience

Chung Shan Medical University

Prof. Cheng-chung Wei, Dr. Hsuan-wei Chu

- Using TriNetX database.
- Diagnose EKG, heart murmurs, cardiac catheterization and heart disease.

National Kaohsiung University of Science and Technology

Prof. Kang-Ming Chang

- To analyze EMG signals for quick sarcopenia and osteoporosis detection. Proficient in IMF and EMD signal decomposition techniques, remove data noise.

International Academia of Biomedical Innovation Technology

Dr. Hsiang-Wei Hu

- Created a predictive system to anticipate hypotension in patients with orthostatic hypotension and utilized LLMs to generate personalized case recommendation summaries.
- Conducted a comprehensive study on Alzheimer's patients' behavioral patterns using eye movement detection and advanced machine learning.

Work Experience

National Science Talent Contest RA ,Taiwan *Jul.2023 – Current*

Chung Shan Medical University RA ,Taiwan *Sep.2023 – Current*

Asia University Lab. Intern, Taiwan *Oct.2022 – Jun.2023*

China Medical University Lab. Summer Intern, Taiwan *Jun.2022 – Oct.2022*

Skills

Programming Language: Python, R

Experiment Skill: RT-PCR, Elisa

Certificate: Nvidia-CUDA

Honors And Awards

Best Paper Award, IEEE 6th Eurasia Conference on Biomedical Engineering, Healthcare and Sustainability *Taiwan,* 2024

The Chung Hwa Rotary Educational Foundation Taiwan Rotary Academic Scholarship *Taiwan,* 2024

The Chung Hwa Rotary Educational Foundation Taiwan Rotary Academic Scholarship *Taiwan,* 2025

Conference Publications

[1] **Y.C. Lin***, (2024) "Securing Healthcare in the Era of AI: Risks and Challenges for Improving Cybersecurity During Systems Upgrades" ,*IEEE CNS Conference, Taiwan*

[2] C.Y. Cheng, **Y.C. Lin***. I-Chiu Chang,(2024) "Evaluating Dialysate Flow and UFR Effects on Membrane Pressure Using Machine Learning" ,*ICEB Conference,* Hong Kong, China

[3] **Y.C. Lin***, S.Y. Liang., (2024) "Interdisciplinary Approaches to Childhood Trauma: Machine Learning and Biomedical Monitoring in Predicting Domestic Violence Trends" , *NWC Conference,* San Francisco, USA

[4] **Y.C. Lin**, L.K. Huang, J.C. Wu, T.Y. Chang, H.W. Hu*., (2024) "Early Detection of Alzheimer's Disease through Eye Movement Analysis: A Digital Diagnostic Approach" , *IEEE iWEM Conference, Taiwan*

[5] **Y.C. Lin**, H.W. Hu*, J.A. Wang, M.H. Lee., (2024) "Interpretability after Deep Learning Analysis of Intradialytic Hypotension Prediction Model with Recommendation Reports Utilizing Large Language Model" , *IEEE ECBIOS Conference Taiwan*

[6] **Y.C. Lin,** P.T. Liu, T.S. Wei, K.M. Chang*., (2024) "Sarcopenia Detection by Center of Pressure with Empirical Mode Decomposition Derived Entropy Features" . *SEMBA Conference*, Taiwan

[7] **Y.C. Lin,** J.Y. Huang, C.C. Wei*., (2023) "The trend of prevalence in attention-deficit/hyperactivity disorder (ADHD), autism spectrum disorder (ASD), and Asperger syndrome (AS) in the US from 2014 to 2023" . *TSBME Conference*, Taiwan