



國科會四年期專題計畫/臨床資料庫與AI之跨域開發及 加值應用-子計畫:癌症資料庫大數據臨床AI決策系統

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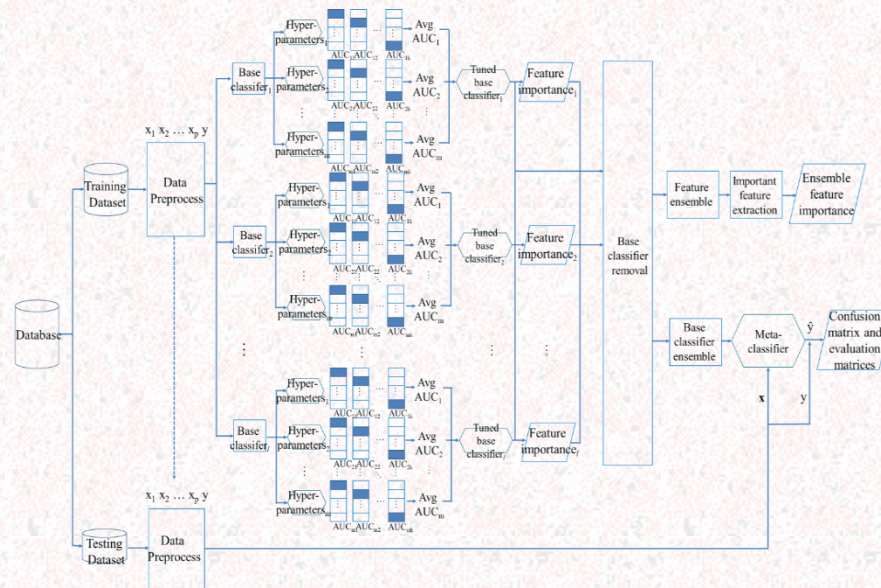
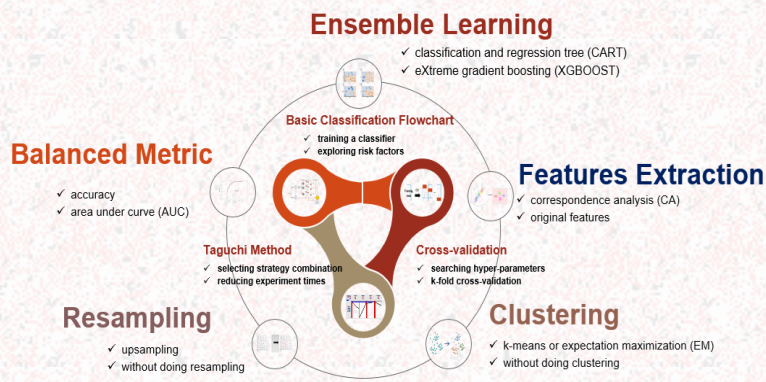
陽明交大
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計畫摘要

- 本研究整合癌症登記資料庫與臨床檢驗資料，運用人工智慧技術發展預測第二癌臨床決策支援系統
- 透過長庚紀念醫院回溯資料(2000. 1. 1至2019. 12. 31，有效資料173, 127)進行模式訓練與測試，以中山醫大附醫的資料進行模式驗證

復發與二癌整合臨床決策支援系統 RC/SC Integrated Clinical Decision Support System



- 採用各式基礎分類器(Base Classifier)：從不同面向(如統計、樹、類神經等)選擇建模用的分類器；剔除多餘的基礎分類器：將基礎分類器之間預測結果相關性過高者刪除；建置集成式分類器(Ensemble Classifier)：以堆疊法(Stacking)將挑選出的基礎分類器集成起來
- 計算集成式特徵重要性(Ensemble Feature Importance)：集成各基礎分類器的特徵重要性，並選出重要的風險特徵

執行亮點

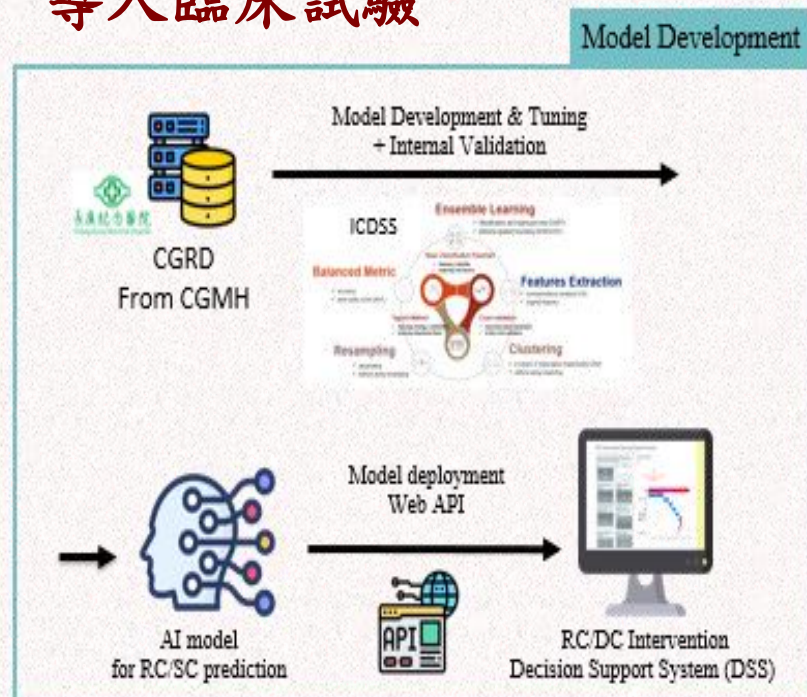
已發表3篇SCI索引期刊著作：

- Chin-Chuan Shih, Ssu-Han Chen, Chi-Chang Chang*, Yu-Lin Shih, Development of a longitudinal diagnosis and prognosis in patients with chronic kidney disease: Intelligent clinical decision-making scheme, International Journal of Environmental Research and Public Health, 18(23), 12807, 2021. DOI: 10.3390/ijerph182312807 (SCIE/SSCI)
- Chi-Chang Chang, Chen CC, Cheewakriangkrai C, Chen YC, Yang SF. Risk Prediction of Second Primary Endometrial Cancer in Obese Women: A Hospital-Based Cancer Registry Study. Int J Environ Res Public Health. 2021, 18, 8997. (SCI; SSCI)
- Chan, C.-L., Chi-Chang Chang* Big Data, Decision Models, and Public Health. International Journal of Environmental Research and Public Health 2020, 17(18), 6723. (SCI; SSCI)

已發表6篇會議著作

- H-H Liao, Chi-Chang Chang*, Y-X Wang, Chalong Cheewakriangkrai Predicting the risk factors of second primary cancer in patients with hepatocellular carcinoma. ICIMTH2021, Oct. 16-17, 2021, Athens, Greece. (Oral)
- Chi-Chang Chang*, Ying-Chen Chen, Machine Learning Techniques to Predict Recurrent Breast Cancer in Taiwan, 2021 30th Wireless and Optical Communications Conference (WOCC), Oct. 7-8, 2021, Taipei, Taiwan. (Oral)
- Tzu-Chi Liu, Mao-Jhen Jhou, Tian-Shyug Lee, Chi-Jie Lu, A Stepwise-Based Machine Learning Scheme to Discover Important Risk Factor Combinations for Colorectal Cancer Distant Recurrence, Int'l Health Sciences and Management Conf., June 16-19, 2022, Ü sküdar University, Rector, Türkiye.
- Ssu-Han Chen, Chi-Chang Chang, Chih-Te Yang, An Explainable Predicting Model for Stomach Cancer Recurrence-proneness, Int'l Health Sciences and Management Conf., June 16-19, 2022, Ü sküdar University, Rector, Türkiye.
- Chang-He Cai, Yi-Ju Tseng, Integrating Clustering and Classification Machine Learning Methods to Build a Secondary Primary Cancer Prediction Model in Lung Cancer Survivors, Int'l Health Sciences and Management Conf., June 16-19, 2022, Ü sküdar University, Rector, Türkiye.
- Ying-Chen Chen, Chi-Chang Chang, Wen-Chien Ting, Second Primary Esophageal Cancer among Head and Neck Cancer Survivors, Int'l Health Sciences and Management Conf., June 16-19, 2022, Ü sküdar University, Rector, Türkiye.

導入臨床試驗



Keynote Speakers

- Prof. Dr. Chi-Chang Chang, Chung Shan Medical University, Taiwan
- Assoc. Prof. Yi-Ju Tseng, National Central University, Taiwan
- Prof. Dr. Wen-Chien Ting, Chung Shan Medical University, Taiwan
- Prof. Dr. Chi-Jie Lu, Fu Jen Catholic University, Taiwan
- Assoc. Prof. Ssu-Han Chen, Ming Chi University of Technology, Taiwan

External Validation External/Internal Application

6th INTERNATIONAL HEALTH SCIENCES AND MANAGEMENT CONFERENCE

New Approaches to Cancer Patients in Taiwan
Taiwan Session

20 MAYIS 2021 / 14:30-16:00

PANEL-2

Moderator
Chi-Chang Chang
Chung-Shan Medical University
Taiwan

Panelists:
 Yi-Ju Tseng, National Central University, Taiwan
 Ssu-Han Chen, Ming Chi University of Technology, Taiwan
 Chi-Jie Lu, Fu Jen Catholic University, Taiwan
 Wen-Chien Ting, Chung-Shan Medical University, Taiwan

2022 6th International Conference on Medical and Health Informatics

OPEN MEDICINE

ICMHI 2022
Kyoto, January 13-16, 2022

Open Medicine (IF 2.199 MEDICINE, GENERAL & INTERNAL)
17:25-18:25 (GMT+9) May 14, 2022 Kyoto, Japan

Special Session #16 Cancer Recurrence

Session Chairs

- Dr. Wen-Chien Ting, Chung Shan Medical University Hospital, Taiwan
- Prof. Chi-Chang Chang, Chung Shan Medical University Hospital, Taiwan
- Dr. Chun-Ju Chiang, National Taiwan University, Taiwan

Speakers

- Role of Single Doxorubicin as a Second-Line Chemotherapy in Advanced and Recurrent Endometrial Carcinoma**
Chalong Cheewakriangkrai, Department of Obstetrics and Gynecology, Division of Gynecologic Oncology, Faculty of Medicine, Chiang Mai University, Thailand.
- Clinical complete remission with close observation could be a substitute for pathological complete remission in rectal cancer after neoadjuvant chemoradiotherapy**
Yu-Jen Hsu, Division of Colon and Rectal Surgery, Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Taiwan
- Predicting the Risk Factors of Recurrent Gastric Cancer: A Hospital-Based Cancer Registry Study**
Hsi-Chieh Lee, Department of Computer Science and Information Engineering, National Quemoy University, Taiwan
- Applying Machine Learning Methods for Predicting Recurrent Risks of Hepatocellular Carcinoma**
Chung Hsien Lan, Department of Computer Science and Information Engineering, Nanya Institute of Technology, Taiwan

ICMHI 2022
2022 6th International Conference on Medical and Health Informatics
May 13-15, 2022 | Virtual Conference
Theme: Validation, Let the evidence speak!

ICHSM 2022
2022 5th International Conference on Healthcare Service Management
May 13-15, 2022 | Virtual Conference
Theme: Validation, Let the evidence speak!

Organized by: Chung Shan Medical University, National Central University, Ming Chi University of Technology, etc.

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