Futian Weng

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EDUCATION

•**National Institute for Data Science in Health and Medicine, Xiamen University**   *Sep 2021-now*
Doctor of Health Big Data and Intelligent Medicine   Xiamen, China

•**School of Mathematics & Statistics, Central South University**   *Sep 2017-June 2020*
Master of Research in Statistics   Changsha, China
-Thesis: Research on Deep Learning Algorithms and Their Applications in Medical Imaging

•**School of Mathematics & Statistics, Central South University**   *Sep 2013-June 2017*
Bachelor in Information & Computing Science   Changsha, China

AWARDS AND HONORS

•**Outstanding Graduate Student of Hunan Province**   *June 2020*
Top 2% of all graduate students from Central South University

•**Mittal Outstanding Student Scholarship**   *Nov 2020*
2 students awarded per year among nearly 250 postgraduates in the school

•**Huawei Outstanding Student Scholarship**   *Nov 2019*
2 students awarded per year among nearly 250 postgraduates in the school

•**Mathematical Modeling Competition**
First Prize of the National College Student Mathematical Modeling Competition   Nov 2018
Second prize of American College Students Data modeling Competition

PUBLICATIONS

•**Refereed Articles [First or corresponding author]**
*H-Index = 8, Citation = 324, [#Authors contributions are equal, *Corresponding author]*

- Su M, Cheng D, Xu Y, & **Weng F***. An improved BERT method for the evolution of network public opinion of major infectious diseases: Case Study of COVID-19[J]. Expert Systems with Applications, 2023: 120938.
- Yang C, Abedin M Z*, Zhang H, **Weng F*** & Hajek P. An interpretable system for predicting the impact of COVID-19 government interventions on stock market sectors[J]. Annals of Operations Research, 2023: 1-28.
- **Weng F**, Zhu J, Yang C, et al. Analysis of financial pressure impacts on the health care industry with an explainable machine learning method: China versus the USA[J]. Expert Systems with Applications, 2022: 118482.
- **Weng F#**, Meng Y#, Lu F, et al. Differentiation of intestinal tuberculosis and Crohn's disease through an explainable machine learning method[J]. Scientific Reports, 2022, 12(1): 1714.
- Liang Z#, **Weng F#**, Ma Y, et al. Measurement and Analysis of High Frequency Assert Volatility Based on Functional Data Analysis[J]. Mathematics, 2022, 10(7): 1140.
- **Weng F**, Zhang H, Yang C. Volatility forecasting of crude oil futures based on a genetic algorithm regularization online extreme learning machine with a forgetting factor: The role of news during the COVID-19 pandemic[J]. Resources Policy, 2021, 73: 102148.
- Wang Z#, **Weng F#**, Liu J, et al. Numerical solution for high-dimensional partial differential equations based on deep learning with residual learning and data-driven learning[J]. International Journal of Machine Learning and Cybernetics, 2021, 12: 1839-1851.
- **Weng F**, Chen Y, Wang Z, et al. Gold price forecasting research based on an improved online extreme learning machinealgorithm[J]. Journal of Ambient Intelligence and Humanized Computing, 2020, 11(10): 4101-4111.)

•**Refereed Articles [Others]**
Google scholar: https://scholar.google.com.hk/citations?user=0DMuV7YAAAAJ&hl=zh-CN

- Lu Y, **Weng F**, Sun H. Numerical solution for high-order ordinary differential equations using H-ELM algorithm[J]. Engineering Computations, 2022, 39(7): 2781-2801.
- Wang Z, Xiao Y,**Weng F**, et al. R-JaunLab: automatic multi-class recognition of jaundice on photos of subjects with region annotation networks[J]. Journal of Digital Imaging, 2021, 34: 337-350.
- Sun H, Hou M, Yang Y, T Zhang, **Weng F**, F Han, et al. Solving partial differential equation based on Bernstein neural network and extreme learning machine algorithm[J]. Neural Processing Letters, 2019, 50: 1153-1172.
- Wang Z, Meng Y, **Weng F**, et al. An effective CNN method for fully automated segmenting subcutaneous and visceral adipose tissue on CT scans[J]. Annals of biomedical engineering, 2020, 48: 312-328.

•Working papers

Under review

– **Weng F**, Su M, Yang C. The Impact of Geopolitical Risk on ESG Stock Market: A perspective from functional data analysis. Under review.
– **Weng F#**, Ma Y#, Xu Y. ISDL: An explainable imbalanced semi-supervised deep learning framework for improving differential diagnosis of skin diseases. Under review.
– Ma Y, Meng Y, Xu Y*, **Weng F***. JaunENet: An effective non-invasive detection of multi-class jaundice deep learning method with limited labeled data. Under Review.
– Zheng C, Zhu J, **Weng F***. Credit scoring modeling based on an improved two stage method with fragmentary data. Under review.
– Yang C, Zhu J, **Weng F***. The effects of a COVID-19 vaccination program on EU carbon price forecasting. Under review. [Second trial in International Review of Financial Analysis]

•Patent

National invention patent

– A method for explaining machine learning in the context of bond market default risk prediction. 1st inventor.
– A Multimodal Perspective Narrative Trajectory Construction and Audience Response Prediction Method. 1st inventor.
– A Method and System for Determining the Trajectory of Public Opinion Evolution Based on Functional Data Analysis. 3rd inventor.
– A two-stage credit risk assessment method and system suitable for fragmented data. 3rd inventor.

POJECT EXPERIENCE

•**2022 Humanities and Social Sciences Research Fund Project of the Ministry of Education**   *Jan 2022-now*
Natural language processing Methodology in Socio economic Statistics, 22YJA910004, [Rank second]   Qindao, China

•**Tian'an Cup College Student Innovation and Entrepreneurship Project**   *Dec 2019-Dec 2020*
Research on the Application of Deep Learning in Medical Image Processing, TAB2019-07, [Rank first]   Changsha, China

•**2020 National Social Science Fund Major Projects**   *Dec 2020-Dec 2024*
The transmission path and early warning monitoring of major infectious diseases, 20&ZD137, [Core members]   Xiamen, China

•**Major Statistical Projects of the National Bureau of Statistics in 2020**   *Dec 2020-Dec 2022*
Research on Big data technology methodology applicable to socio-economic statistics, 20ZX20, [Core members]   Xiamen, China

ACADEMIC REPORT

–**2021 (13th) International Conference on Data Mining and Applications**   *July 25th, 2021*
Measurement and analysis of high frequency assert volatility basedon functional data analysis   Xiamen, China

–**2022 (14th) International Data Mining and Application Annual Conference**   *Nov 15th, 2022*
An imbalanced semi-supervised deep learning framework for improving differential diagnosis of skin diseases   Guilin, China

–**School of Mathematics and Statistics, Central South University**   *Nov 6, 2022*
Invited by Associate Professor Zhang Hongwei, Backing Theory and Facing Applications   Changsha, China

–**School of Mathematical Sciences, Ocean University of China [Tencent Meeting]**   *Nov 21, 2022*
Invited by Professor Yan Xu, What is artificial intelligence? And its application in economic management   Qindao, China

–**Xiamen University School of Medicine "Renxinyan" Postgraduate Academic Salon**   *May 31, 2023*
How does AI enable medical Big data   Xiamen, China

TECHNICAL SKILLS AND INTERESTS

Languages: Python, R
Areas of Interest: data mining.
Soft Skills: Self-learning, Adaptability.