CHENG CHENG

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Education

University of Malaya Mar. 2024 - Present
Master of Science *Kuala Lumpur, Malaysia*

- Data-driven modeling and analysis of infectious diseases
- **Research Interests:** Computational Epidemiology, Deep Learning, Bayesian Inference

Yuncheng University Sep. 2019 - May. 2023
Bachelor of Mathematics and Applied Mathematics *Yuncheng City, China*

- **Relevant Coursework:** Mathematical Modeling (97%)Mathematical Analysis II(93%) Advanced Algebra(91%)

Experience

Leveraging DINNs for predictive modeling of COVID-19 spread Dec. 2023 – Jan. 2025
Scientific Reports

- Developed a DINNs model that integrates the SEIRV compartment model into deep learning frameworks. This approach enhances traditional epidemic models by incorporating data-driven techniques.
- Applied the DINNs model to real-world data, demonstrating its effectiveness in fitting multiple epidemic waves and predicting future trends.

Estimated Serial Interval and reproduction number of SARS-CoV-2 Omicron variant Dec. 2023 – Feb. 2025
Advances in Continuous and Discrete Models

- Demonstrated strong data analysis skills through statistical analysis of Omicron transmission potential, utilizing Python and R for data collection, cleaning, and analysis, and providing recommendations for control measures in a research paper.

Prediction of World Temperature Based on PSO Optimized LSTM Neural Network Nov 2022 – Apr 2023
ICIBA2023

- Utilized advanced machine learning techniques, including PSO-optimized LSTM neural network and sensitivity analysis, to predict global temperature and optimize loss function, demonstrating proficiency in programming languages such as Python and MATLAB.

Research on Identification of Seismic Event Properties Based on LS-SVM Apr 2021 – Jun 2022
Journal of Geodesy and Geodynamics

- Responsible for data collection and analysis, literature review, and drafting the initial paper version.

Research on seismic discrimination based on PSO, GRNN and HHT Sample Entropy Apr 2020 – Jun 2022
Progress in Geophysics

- Contributed to literature review and utilized Python for data mapping, resulting in a model with a 22% improvement over previous models.

Awards

National Second Prize in the National Student Mathematical Modeling Competition 11/2021

Nomination for the Mathematical Modeling Competition in Shanxi Province 04/2022

National Third Prize in the National Student Market Research and Analysis Competition 05/2022

Internships

Research Volunteer Dec 2024 – Present
Mosquito-Borne Diseases in the Americas *Computational Epidemiology DVRN*

Research Assistant Mar 2025 – Present
Enhancing cardiac electrophysiology model: Improving arrhythmia prediction and drug safety evaluation *University of Malaya*

Skills

Software: Python, Matlab, R, Latex
Language: Chinese(native), English(fluent)