Yuhong Zhang

CONTACT INFORMATION

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Address: No. 2999, North Renmin Road, Songjiang District, Shanghai 201620, China

EDUCATION

9/2022-Present **Master of Science in System Science**, Donghua University, Shanghai, China

GPA: 92.4/100

Focus: Biomathematics, Ordinary Differential Equations and Dynamical Systems

9/2018-6/2022 **Bachelor of Science in Statistics**, North University of China, Shanxi, China

GPA: 87/100

Thesis: Predictive Analysis of Ventilator Pressure in Patients with Pneumonia Based on Deep Learning

RESEARCH INTEREST

Bioinformatics, Computational Biology

PUBLICATIONS

Zhang, Y., Song, Y., & Niu, L. (2023). "**Globally attracting positive periodic solution of the n-dimensional periodic Ricker system**", *Applied Mathematics Letters*, 150, 108948. (SCI, JCR Q1)

- This paper employs dynamical system methods to prove that all species in the biological Ricker system converge to a periodic global attractor under specific conditions, and dynamically simulates the system using MATLAB and Python.

Xue, Z., **Zhang, Y.**, Zhang, L., & He, C. "**Forecasting stock return based on multi-factor dynamic attention network**", submitted.

- This paper developed a novel model, Multi-Factor Dynamic Attention Network, to forecast stock price exchanges. We use attention weights between time and factor dimensions to increase the prediction accuracy of LSTM by over 20%.

HONORS AND AWARDS

2023-2024 Second-Class Scholarship for Elite Graduate Students, Donghua University

2022 **Honor of Outstanding Graduate,** North University of China

2021 **Meritorious Winner,** Interdisciplinary Contest in Modeling (ICM)

2021 **First Prize (Top 1%),** National Market Research and Data Analysis Contest

2021 Third Prize, National College Student Data Mining Contest

2021 Honourable Mention, National College Student Statistical Modeling Contest

2020 **First Prize,** National College Student Data Analysis Challenge

2020 Second Prize, National College Student Data Analysis Challenge

2018-2022 **First-Class Scholarship for Elite Student,** North University of China

ACADEMIC EXPERIENCE

12/2022 – 12/2023 **Interdisciplinary Cooperation on Material Performance**, Donghua University

- Established and optimized a model combining dynamic systems and machine learning to predict material performance.
- Collaborated with three researchers from the Department of Materials Science and Engineering.

9/2022 – 2/2023 **Undergraduate Teaching Assistant**, Donghua University

- Assisted in teaching Linear Algebra courses for undergraduates.
- Graded assignments, conducted review sessions, and supported student inquiries.

10/2021 – 6/2022 **Undergraduate Thesis on Deep Learning**, North University of China

- Applied several deep learning models to optimize the control system of ventilators.
- Used five-fold cross-validation to minimize overfitting.
- Structured a GRU-LSTM combined model, achieving a predictive accuracy of 96.1% with an MSE of 0.93, overcoming limitations in real-time monitoring to a large extent.

3/2021 – 3/2022 **Provincial Research Project on Healthcare**, North University of China

- Used a Python web scraping program to gather information from various websites and build a knowledge graph as a large database on dietary health.
- Assisted other team members in preparing for the construction of an intelligent question-answering system.

SKILLS

Languages:	English (fluent); Chinese (native)
IT Skills:	Python (proficient in TensorFlow and PyTorch), MATLAB, R, SPSS, LaTeX
Software:	PyCharm, Jupyter, EndNote, Overleaf