

Keyang Zhong

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GitHub Profile

EDUCATION

•China Agriculture University(CAU, Project 985&211)

Beijing, China

College of Information and Electrical Engineering (CIEE) – Artificial Intelligence

09/2020 - 07/2024

Overall Score: 3.80/4.0 Rank:4/36

PROJECT EXPERIENCE & PUBLICATIONS

•Prediction of Environmental Factors in Recirculating Aquaculture Systems (RAS)

Project leader

12/2020-04/2022

- Cleaning and analyzing water quality time series data.
- Investigate the time series prediction statistical models and artificial neural network models in RAS .
- Use and compare multiple models in RAS.
- Empirically demonstrate multiple graph fusion network in gathering multidimensional information Achieving the SOTA performance on multiple benchmark of prediction.

•Research on Machine Learning-Based Time-Series Models for Rearing Fish in RAS

Project leader

09/2022-08/2023

- Processing time-series data of water quality parameters and Interpolating missing values using various methods.
- Empirically demonstrate effectiveness of attention-based generative adversarial network in imputating missing value of RAS.
- Paper on missing value imputation of circulating water time series based on attention-based generative adversarial network (first author, under review).

[1] Liu, G., Zhong, K., Li, H., Chen, T., Wang, Y., 2022. A state of art review on time series forecasting with machine learning for environmental parameters in agricultural greenhouses. Information Processing in Agriculture, <https://doi.org/10.1016/j.inpa.2022.10.005>

[2] Liu, G., Jiang, Y., Zhong, K., Yang, Y., Wang, Y., 2023. A time series model adapted to multiple environments for recirculating aquaculture systems. Aquaculture 567, 739284, <https://doi.org/10.1016/j.aquaculture.2023.739284>

COMPETITION EXPERIENCE

•Computer vision – helmet detection

A competition about utilizing and enhancing the YOLO models for safety helmet detection.

- Employed YOLOV3, PPYOLO, PPYOLOE, and SSD models to detect targets in the safety helmet dataset.
- The backbone network of YOLOV3 was modified to MobileNet for object detection.
- Taking all factors into consideration, PPYOLO was used, resulting in a final average precision (AP) of 0.6781.

•Natural Language Processing – Medical Search Query Relevance Assessment

A competition on using deep learning models for medical search query relevance assessment.

- Utilizing the pre-trained BERT model as the foundational architecture, semantic features were extracted.
- A simple fully connected layer and a sigmoid activation layer were added after the pooler layer for correlation analysis.
- The accuracy after model fusion is 0.8742, ranking 10th among 256 participants.

TECHNICAL SKILLS & INTERESTS

Programming Language: C/C++, Python

Language: Mandarin Chinese(Native); English(IELST:6.0)

Frameworks: Pytorch, Tensorflow, PaddlePaddle

Relevant Coursework: Data Structures & Algorithms, Pattern Recognition, Machine Learning, Natural Language Processing, Multi-Agent Systems, Introduction to Optimization

Areas of Interest: Machine Learning, Data Mining, Spatiotemporal Time Series.

Soft Skills: Problem Solving, Self-learning, Presentation, Adaptability

EXTRACURRICULAR ACTIVITIES & AWARDS

•On Desk Registrations Volunteer 2023 Beijing Half Marathon, Beijing

April 16, 2023

- Assist participants in registering information.

•Teachers for Rural Education 2021 summer "warm childlike heart with love" activities

Oct - Dec 2021

- Contacting left-behind students, principals, and other volunteer teachers
- providing guidance on the psychological and academic well-being of left-behind children.

•2020-2021 & 2021-2022 National Encouragement Scholarship (top 5%)

•2020-2021 Zhang Jiguang Scholarship (top 1%)

•2021-2022 Xizhi Scholarship (top 3%)