Keyang Zhong
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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 gatrering multidimensional information Achieving the SOTA performance on multiple banchmark 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: Mandrin Chinese(Native); English(IELST:6.0)
Frameworks: Pytorch, Tensorflow, PaddlePaddle
Relevent 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%)