Zhang Wen

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Educational Background

Ocean University of China Qingdao, China
Bachelor of Science in Computer Science and Technology (Jointing Project) Sept.2021-Jun.2025 (expected)
Cumulative GPA: **92.15/100** | Rank: **1/92**
English Grade: **CET-4:556 CET-6:510 IELTS:6.5**

Research Interest

Embedded AI, Binocular Vision, Features Matching, Large Model

Research Experience

PriorNet: A Novel Lightweight Network with Multidimensional Interactive Attention for Efficient Image Dehazing
Supervised by Prof. Chao Wang | University of Science and Technology of China Jan.-Apr.2024
Objective: Propose PriorNet—a novel, lightweight, and highly applicable dehazing network designed to significantly improve the clarity and visual quality of hazy images while avoiding- excessive detail extraction issues.

- Streamlined the feature extraction process by utilizing a uniform convolutional kernel size and incorporating skip connections;
- Performed rigorous testing across a variety of datasets, demonstrating the exceptional performance of Prior-Net in tasks such as dehazing and clarity restoration;
- Compared to other methods, the model size of PriorNet is only 18Kb, yet it exhibits outstanding de-artifacting and generalization capabilities.

PAUE-Net: A Probabilistic Adaptive Underwater Enhance Network Jan.-Apr.2024
Team Leader | Ocean University of China
Objective: Propose new methods to address the issue of unrealistic seabed conditions encountered in underwater image enhancement tasks.

- Used an advanced probabilistic underwater enhance network and improved the probabilistic network performance in these two aspects;
- Proposed an attention mechanism to enhance the probabilistic features extracted by the probabilistic module;
- Added the extra input pictures that were converted to LAB color space to provide supplementary information about underwater images, aiming to achieve high-quality reconstruction effects;
- Conducted the model test on well-known underwater enhance image datasets.

Wordle Distribution Prediction Model Based on Random Forest Apr.-Oct.2023
Team Leader | Ocean University of China
Objective: Use Random Forest Regression to predict the percentages of (1, 2, 3, 4, 5, 6, X) in a future day to get the distribution of the percentage of the accuracy of guesses.

- Included additional attributes during the pre-processing of the data, using the rows of the new data as inputs, and then exported the resulting output distribution;
- Constructed the Distribution Prediction Model based on Random Forest that contains normalization part, random forest part and the weighted averaging output function;
- Analyzed Pearson's correlation coefficient and drew the heatmap to show the final results;
- Conducted the sensitivity and reliability analysis.

FPGA-based Fish Recognition Chip using Yolo Neural Network Architecture Dec.2022-Nov.2023
Team Leader | Ocean University of China
Objective: Use an FPGA-based fish recognition chip with YOLO neural network architecture to identify fish species to enhance the research and development of fishery resources.

- Implemented the YOLOv3-Tiny algorithm and performed corresponding network optimization for fish recognition;
- Deployed the YOLOv3-Tiny algorithm on an FPGA chip, including the design of the compute array, storage units, and the controller or instruction set.

Smart Vehicles and Multi-View Reconstruction Mar.-Aug.2022
Undergraduate Research Assistant | Shandong University

- Built an Arduino car and implemented functions such as obstacle avoidance and line following;
- Implemented functions such as line following, cooperative driving, and digit recognition based on the RoboMaster platform;
- Built a Raspberry Pi car and implemented functions spanning line following, object recognition, and navigation

using the platform.

Publications

[1] Yutong Chen, **ZhangWen***, Chao Wang, Lei Gong, and Zhongchao Yi, **A Novel Lightweight Network with Multidimensional Interactive Attention for Efficient Image Dehazing**, preprint on *arxiv*

[2] **Zhang Wen**, Yikang Zhao, Feng Gao, Hao Su, Yuan Rao and Junyu Dong, **NUAM-Net: A Novel Underwater Image Enhancement Attention Mechanism Network**, Accepted by *Journal of Marine Science and Engineering*

[3] **Zhang Wen**, Yutong Nie, and Zhaorui Jiang, **"Wordle Distribution Prediction Model Based on Random Forest"**, Published on *2023 IEEE 3rd International Conference on Data Science and Computer Application (ICDSCA)*, DOI:10.1109/ICDSCA59871.2023.10393098

Honors & Awards

Second Prize | National Mathematical Competition	May 2023
First Prize | Shandong College Student Physical Competition	Dec.2022
First Prize | National Mathematical Competition (Shandong Division)	Dec.2022
First Prize | China Undergraduate Mathematical Contest in Modeling (Shandong Division)	Sep.2023
National Scholarship (Top 2%)	Sep.2022 & Sep.2023
First-Award Scholarship (Top 5%) | Ocean University of China	Sep.2022 & Sep.2023
Merit Student | Ocean University of China	Sep.2022 & Sep.2023

Internship Experience

RobuSoft (Beijing) | AI Engineer Intern — Jul.-Aug.2023

- Participated in the setup of edge computing hardware;

Professional Skills

Programming Language: C, JAVA, Python, MATLAB
Software: Pytorch, Keras, Tensorflow, LaTeX