

Yiyuan Zhang

Zhejiang University | (86) 19883173642 | email: 22134083@zju.edu.cn

OBJECTIVE

To obtain a Ph.D. in Earth and Atmospheric Science from CUHK, with the aim of advancing my knowledge and skills in the field of addressing Global Climate Change, contributing to scientific research, and pursuing a career as a researcher in academia or industry.

EDUCATION

Zhejiang University

Zhoushan, China

MPhil. In Machinery, Ocean College (GPA: 3.44/5.00)

Sep. 2021 - Mar. 2024 (Expected)

- Artificial Upwelling (AU) Technology Group, Advisor: Prof. Wei Fan
- Research Interests: AU Technology & Intelligent Algorithms

Dalian Maritime University

Dalian, China

B.Eng. in Engineering, Marine engineering college (GPA: 4.00/5.00, rank Top 2%)

Sep. 2017 - Jun. 2021

- Outstanding graduates and Merit student
- HAYANG Maritime Scholarship (< 2%)

RESEARCH PROJECTS

Layout Optimization for Underwater Nozzle Array of Air-lifted Artificial Upwelling System Based on Discrete Particle Swarm Algorithm

- Implement a novel approach to optimize the layout based on the discrete particle swarm algorithm (PSO) algorithm, which outperforms the binary PSO and PSO algorithms in our study.
- Improved system efficiency by 14.5% to 35.0%, providing new insights for AU system optimization design.
- Co-authored peer-reviewed papers on this topic and submitted manuscripts to the reputable ocean journal "Applied Ocean Research."
- Demonstrated strong problem-solving and critical thinking skills, as well as attention to detail in designing and executing experiments and analyzing results.

Deep Reinforcement Learning for Artificial Upwelling Energy Management

- Defined the energy management problem during AU system operation as a Markov Decision Process (MDP) and developed a data-driven DRL-based algorithm to optimize operational efficiency and ensure system safety.
- Contributed to the development of key concepts in the data-driven AUS energy management approach for DRL, such as system state, control action, and reward function.
- Demonstrated proficiency in programming languages commonly used in DRL, such as Python and Pytorch.
- Collaborated with a team of researchers and worked independently to design experiments, analyze data, and develop solutions.

PERSONAL SKILLS

- Language ability: CET-6: 497,
- Programming ability: Familiar with deep learning libraries such as TensorFlow and PyTorch