Yunhao Liu

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Education

Dalian University of Technology Dalian, China

- *B.E.* in Computer Science and Technology *2020 - 2024*
- **GPA: 3.91** (90/100) **Ranking:** 8/40

Research Experience

The IIAU-Lab, Dalian University of Technology, *Advisor: Prof.* ***Huchuan Lu*** June. 2021 - Present

Underwater Robotics Vision

- Proposed a network based on the Two-Stage Object Dectection Algorithm detectoRS in order to improve the accuracy of robot underwater object detection as much as possible.
- Proposed a network based on the One-Stage Object Dectection Algorithm YOLOX in order to improve the detection speed as much as possible while ensuring a certain accuracy of robot underwater object detection.
- Implemented some other training tricks to the Neural Network including data mosaic and mixup, multi-scale training, global_context, etc.
- Proposed a method for dealing with the tiny object and overlapping object detection like underwater object detection.

Video Salient Object Detection

- Currently working on investigating and improving the video salient object detection algorithm from the perspective of attention network and transformers combined with the method of image salient object detection.

The ICCD Lab, Dalian University of Technology, *Advisor: Prof.* ***Xin Yang*** Dec. 2020 - Present

Design and Realization of UAV Automatic Traversing System for Ring Obstacles

- Built an F450(330) drone with Nvidia NX small onboard computer.
- Designed an algorithm based on YOLOV5 and OpenCV for the specific scene of the UAV passing through obstacles, and implemented the planning of the UAV flight path on UE4.
- Achieved the goal of UAV Automatic Traversing for Ring Obstacles through the combination of algorithms and physical drones.

Honors and Awards

The Third prize 2021 China Intelligent UAV Racing Championship(rk.**7**) Nov. 2021
The Third prize 2021 China Underwater Robot Professional Contest - Optics Track(rk.**9**) Sep. 2021
Technology Innovation && Learning Excellence Scholarship, DUT (Top **5%**) Jun. 2021

Skills

- Programming Languages: Python, C/C++, MATLAB, Verilog, assembly x86, Bash, LaTeX
- Platform: Linux
- Tools: Git, Docker, OpenCV, PyTorch, HuggingFace, CUDA

Miscellaneous

- GitHub: https://github.com/liuyunhaozz
- Languages: English, Mandarin - Native speaker