

# YUNHAO LIU

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## EDUCATION

### Dalian University of Technology

Dalian, China

- Major in *Computer Science and Technology*
- GPA: **3.94** (91.2/100)

2020 - 2024

## INTERN & WORK EXPERIENCE

### Massachusetts Institute of Technology

Jul. 2022 - Sep. 2022

#### Blended Learning Project

- [certificate] Blended Learning Live Session Series
- [certificate] Applying Machine Learning to Engineering and Science
- Total Score: **89/100**

### IIAU-Lab, Dalian University of Technology, Advisor: Prof. Huchuan Lu

May. 2021 - Present

#### Underwater Robotics Vision

- Proposed a network based on the Two-Stage Object Detection 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 Detection 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.

### ICCD Lab, Dalian University of Technology, Advisor: Prof. Xin Yang

Sep. 2021 - Nov. 2021

#### 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

## **i** MISCELLANEOUS

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- GitHub: <https://github.com/liuyunhaozz>
- Interested in the history and geography of countries around the world
- Love swimming and football