YITONG WANG

(+86)13265139183 ⋄ ytwangcs@gmail.com ⋄ ytwangcn.github.io

Interests: Robotics, Machine Learning, Vision, Computation and Simulation

EDUCATION

South China University of Technology, Guangzhou, CHN *Sep. 2018 - Jun. 2022*
Bachelor in Engineering(supervised by Prof. Zhang Dong) GPA:3.15/4(3.7+/4 in the last 2 years)
Major: Process Equipement and Control Engineering Minor: Computer Science and Technology

ACADEMIC EXPERIENCE

NUS School of Computing Summer Workshop 2022 *May 2022 - Aug. 2022*
Cluster: Deep Learning and Embedded System(supervised by Dr. Colin) Grades:A

Imperial College London MasterClass 'Robotics, AI and iOT' *Jan. 2021 - Feb. 2021*
Theme: Fire inspection robot(supervised by Dr. Penny Lo) [*Best Project*] Grades: 95/100

South China University of Technology RobotLab *Sep. 2019 - Jun. 2022*
Member and project leader of Robot Competition Team(supervised by Prof. Zhang Dong)
Research Area: Robot Perception and Navigation, SLAM and Multi-sensors Fusion

WORK EXPERIENCE

Engine Plant of Dongfeng Commercial Vehicle Co., Ltd , Wuhan *August 2021*
Processing Engineer Intern

· On-site internship under this leading vehicle company. As part of undergraduate studies, work in the safety supervision of heat treatment, and technological production processes. Participated in equipment design and maintenance.

Botai Robot Technology Co., Ltd, Foshan *Jan. 2021 - May. 2021*
Algorithm Researcher Intern

· Robot Algorithm internship under this robot startup. Engaged in research on perception algorithms for mobile robots, especially visual slam and multi-sensor fusion.

SELECTED AWARDS

3rd Prize of AI Challenge at International Conference on Robot and Automation(***ICRA***) 2021.

1st Prize of RoboMaster Championship(Chinese Undergraduate Competition for robots) 2021.

1st Prize of RoboCon Quadruped Robot Simulation Competition 2020.

Merit Student and University Scholarship by SCUT(top 25%).

2nd Prize in 32th Chinese Physics Olympiad(CPhO).

3rd Prize in 31th Chinese Physics Olympiad(CPhO).

PROJECTS

Intelligent Plant Incubator
I am responsible for the deep learning part, collecting datesets for plant pests and weather data. Using Inception V3 and LSTM to detect plant pests and growth environment (such as temperature, moderate, light) respectively. In particular, for the workshop presentation, I made poster and video of the project.

Diploma Project
Theme: *Research on Cruise Inspection of Industrial Process by Autonomous Robots.*
Develope Navigation Algorithm by Deep Deterministic Policy Gradient algorithm and defect detection of production equipment and products based on improved Faster R-CNN, increasing the feature pyramid structure and change the last block to a variable convolution to deal with strip and irregular shaped product defects, and using OpenVino to accelerate the inference model to reduce 25% inference time.

Dual Robot task collaboration under rules based on Reinforcement Learning
We designed a Behavior Tree to achieve key node decision-making with assist under Reinforcement Learning. We also developed a general SLAM algorithm for mobile robot for the laboratory while we have increased the recognition of special visual symbols in the field to enhance the accuracy of location.

National Undergraduate Training Project for Innovation and Entrepreneurship
Theme: *Research on the sharing of Medical Data based on Blockchain and Big Data Technology*
Building dynamic mathematical models of infectious disease development, adding the influence of government intervention and medical care to traditional models. Use crawlers and NLP to analyze the sensitivity of the masses on social media to infectious diseases as a reference and visualize the result.

Fluid Mechanics Analysis of Automobile under High-speed Motion Based on ANSYS
Build the solidworks model of the vehicle, import it into ansys and use the Fruid package to calculate the fluid parameters around the vehicle at different speeds, such as pressure, etc.

SRP Project
Theme: *Research on the Structure and Algorithm of Bionic Quadruped Robot*
Carry out dynamic analysis on the leg structure of the bionic robot, and perform bionic optimization on it through computational science, and reduce the weight by 30 percent while ensuring the mechanical structure strength remains unchanged. At the same time, design and optimize the previous generation control algorithm for this structure.

TECHNICAL STRENGTHS

Modeling and Analysis	AutoCAD, SolidWorks, Fusion360, ANSYS
Software & Tools	MS Office, LaTeX, Adobe Softwares
Framework	TensorFlow, OpenCV, ROS, V-rep
Programming	Python, C++, HTML, JavaScript, Matlab
Language	Chinese(native), English