JIAYI WU

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EDUCATION

University of Florida Gainesville, FL, US

M.S. in Electrical and Computer Engineering GPA:3.77 08/2021- 06/2023

Courses: *Fundamentals of Machine Learning, State Variable Methods in Linear Systems, Computer Communications, Wireless Networks, Pattern Recognition, IoT Security and Privacy, Computational Photography, Formal Methods Robotics & AI, Research for Master's Thesis*

Zhejiang Sci-Tech University (ZSTU) Hangzhou, China

B.E. in Mechatronic Engineering GPA: 86/100 09/2017- 06/2021

Courses: *Theoretical Mechanics, Material Mechanics 1, Analog electronic circuit, Digital Electronic Circuits, Mechatronic Control Engineering, Mechtronic System Design, Finite Element Technology, Embedded System Software Design*

EXPERIENCES

Underwater 3D reconstruction (Master's thesis) University of Florida, Gainesville, FL, US

Master's thesis 01/2022-present

- Programming an underwater robot with ROS to perform data acquisition tasks underwater.
- Realize underwater 3D reconstruction through multi-angle underwater images, and realize fast underwater monocular depth estimation algorithm. The ultimate goal is to achieve real-time underwater 3D reconstruction and perception.
- One paper has been submitted (ICRA2023), the title of the paper is "UDepth: Fast Monocular Depth Estimation for Visually-guided Underwater Robots".

Digital audio and video algorithm engineer (Summer Internship) Vobile, Santa Clara, CA, US

Internship 05/2022-08/2022

- Development of ML-based Video Retrieval Algorithm Based on Global Feature and Local Feature Fusion
- Test and develop audio and video fingerprinting and watermarking algorithms (for copyright protection)
- Conduct phase-shift auditory tests and improve psychoacoustic models in C and MATLAB (compatible with phase-shift cases

Graduate Student Assistant University of Florida, Gainesville, FL, US

Participant 01/2022-present

- Generate complex 3D models programmatically.
- Connect the program with the database to realize the dynamic real-time 3D model.

Low-cost driverless car charging pile (Undergraduate Graduation Project) ZSTU, China

Independent inventor 12/2020-06/2021

- Completely self-designed a set of low-cost automatic charging solutions for driverless cars.
- Independently design a low-cost and expandable spatial location acquisition module, and apply it in automatic charging piles for driverless cars.
- Complete the model prototype building independently, and fully realize the automatic docking and communication functions of the automatic charging pile and the car charging port.
- Graduation design works were invited to participate in the National Engineering Graduation Design Competition and won the first national individual award (only two people in the country won this award).
- For this system, a national invention patent (An automatic charging system and charging docking method for an unmanned vehicle) has been applied for and is in the approval stage.

Parallel Wire robot (PWR) Research Project ZSTU, China

Participant 10/2019-11/2020

- Joined in a research team focusing on the study of parallel wire robot.
- Designed a closed-loop control system in MATLAB and conducted simulation.
- In charge of collecting kinematics information of robot's actuator by matrix operations
- The production of PWR was basically completed based on our design.

The *Challenge Cup* Extracurricular Academic Works Competition Hangzhou, China

Project Leader 12/2018-07/2019

- Led a team to design a hand rehabilitation training robot that helps the elderly people treat and restore their physical functions of hands.
- Designed an integrative multicavity software driver which fits multi-posture movement of hands and made pressure sensor and bending sensor to effectively promote functional reorganization and relieve muscle and knuckle atrophy.
- Built the rehabilitation model based on sEMG signal character parameters to realize real-time management of exercise data and make rehabilitation effectiveness measurable.
- Successfully made a demonstration model and won the third prize in the competition.

HONORS & AWARDS

Excellent graduate of Zhejiang Sci-Tech University	06/2021
Individual first prize in the National University Graduate Design Competition (Only two people won this award nationwide)	06/2021
Zhejiang Government Scholarship	12/2020
Provincial First Prize of National 3D Digital Innovative Design Competition	10/2019
Second Prize of National 3dds Competition Classic	09/2019

First Class School Financial Aid for Overseas Exchange Program	09/2019
Third Prize of The 16th Zhejiang Province Mechanical Design Competition for College Student	06/2019
Third Prize of The *Challenge Cup* Extracurricular Academic Competition Works Competition	04/2019
Second Prize of *Internet* + School Competition	04/2019
Zhejiang Government Scholarship	12/2018

SKILLS

Software:

- Proficient: MATLAB, Altium Designer, SolidWorks, Ansys, SpaceClaim (by code), STM32, ROS, Linux
- Intermediate: Verilog, Catia
- Basic: Labview

Programming language:

- C
- Python (PyTorch, Tensorflow, Scikit-learn, OpenCV, Open3d, etc)
- MATLAB

Others: 3D CAD Engineer Certification; Soccer; Aeromodelling