HANG YUAN

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EDUCATION

Xi'an Jiaotong-Liverpool University (XJTLU)
Year 2 | Major in Mechatronics and Robotics Systems
Honours & Awards:

- The 2^{nd} Prize of 2021 RoboMaster University Championship in the 20^{st} National University Robot Competition *South China Regional* 2021-2022
- The 3^{rd} Prize of 2021 RoboMaster University Championship in the 20^{st} National University Robot Competition *National Regional* 2021-2022
- The 1^{st} Prize of 2021 China Engineering Robotics Competition and International Open Championship Vision Robotics Project Vision Robot Recognition Competition (Undergraduate) Project Competition 2021-2022
- The 2^{nd} Prize of 2021 Jiangsu Intercollegiate League 1V1 Confrontation in the 20^{st} National University Robot Competition *Infantry Robot Matchups* 2021-2022
- The 3^{rd} Prize of 2021 Jiangsu Intercollegiate League 3V3 Confrontation in the 20^{st} National University Robot Competition *Sentry Robot Strength Award* 2021-2022
- The $No.1$ in the entrepreneurship of AY2020-2021 spring semester of XJTLU 2021-2022

REASEARCH EXPERIENCES

Research on microfluidic field **01.2022-Current**
XJTLU Intelligent Microsystems Laboratory
XJTLU research assistant *Supervisor: Pengfei Song & Quan Zhang*

- Engaged in the field of microfluidic research, using centrifugal devices to assist biological detection
- Design and manufacture centrifuge, prepare sample solution for qualitative and quantitative experiments, improve the sensitivity of biological detection

Research on Humanoid Robot and Bionic Robot **10.2021-Current**
XJTLU research assistant *Supervisor: Min Chen & Quan Zhang*

- Arrange robotic action sets and display processes
- Design and build simple humanoid robots using 3D printing, Arduino, steering gear, etc

Research on Parametric and Lightweight Design of Free Shape Exoskeleton **05.2021-09.2021**
XJTLU Summer Undergraduate Research Fellowships (SURF) Project
SURF project volunteer *Supervisor: Min Chen*

- Use simulation software ANSYS (workbench) in designing exoskeletal robots to implement parameterization
- Completed the mechanical part and typesetting of the biped robot technical report and participated in a national robot competition

Research based on 20^{st} ROBOMASTER National University Robot Competition **11.2020-Current**
XJTLU Embedded Artificial Intelligence Hardware Universities-Enterprises Joint Key Laboratory
Mechanical Group Member-Sentry developer/ Investment Manager *Supervisor: Chun Zhao*

- Developed and design of the whole sentry robot and the chassis drawings of the engineering robot in RoboMaster
- Improved quick disassembly structure and Single muzzle head
- Took charge of the team's investment and cooperation activities

PUBLICATIONS

[1] **Yuan H.**, Zhang W. (2019) A Novel Hedgehog-Inspired Pin-Array Robot Hand with Multiple Magnetic Pins for Adaptive Grasping. In: Yu H., Liu J., Liu L., Ju Z., Liu Y., Zhou D. (eds) Intelligent Robotics and Applications. ICIRA 2019. Lecture Notes in Computer Science, vol 11744. Springer, Cham. https://doi.org/10.1007/978-3-030-27541-9_56

[2] **Hang Yuan**. Research Status and Prospects of Adaptive Robotic Hands [J]. Science and technology & Innovation,2019(04):10-11+15.DOI:10.15913/j.cnki.kjycx.2019.04.010.

PATENTS

[1] **Hang Yuan**, Wenzeng Zhang. Adaptive robotic hand device for force-controlled rapid gripping of pole gripper groups:, CN109571539A[P]. 2019.

[2] **Hang Yuan**. Hedgehog-like magnetic drive rod ball adaptive robotic hand device:, CN109397278A[P]. 2019.

[3] **Hang Yuan**. A magnetic drive linkage leveling robot hand device:, CN109531610A[P]. 2019.

INTERNSHIP EXPERIENCES

Summer internship, **Suzhou Non-Fish Cultural Media Company Limited** **08.2021-09.2021**

- Deep exposure to industrial robots, AGVs, AR/VR/MR real-scene applications and project planning
- Communicate with suppliers and make working memos to provide reasonable purchasing solutions

EXTRACURRICULAR ACTIVTIES

President & Liaison Minister, **XJTLU Sagittarius Astronomy Club** **03.2021-03.2022**

- Planned and organized astronomical observation activities
- Invited lecturers and professors of the Department of Physics to give astronomy lectures
- Gave lectures on astronomy to high school students of XJTLU affiliated schools

Vice President, **XJTLU Tea Club** **12.2020-12.2021**

- Planned and prepared event proposals on the theme of tea

Liaison Minister, **XJTLU G-Master Robot Club** **03.2021-03.2022**

- Designed and organized activities related to intra-school robot battles

Project Leader, **XJTLU College student entrepreneurship project-Inkless** **05.2021-05.2022**

- Write part of business plan and do road show presentation
- Provide technical support and operation of projects with 3D printing

Student lecturer, **XJTLU Optional Course** **03.2021-12.2021**

- *Y1S2& Y2S1 Unlocking robotic hands* optional course
- Taught students the basics of mechanical and robotic hands

Student Mentor, **XJTLU-Affiliated school** **09.2021-08.2022**

- Teach astronomy, tea art, incense, robotics and 3D printing etc.

Outstanding Class Cadre, **XJTLU** **09.2020-07.2021**

Outstanding Student Cadre, **XJTLU** **12.2020-12.2021**

Pioneer Award, **2020 I-Link of XJTLU** **01.2021-04.2021**

Excellent model, **2020 Military training of XJTLU** **11.2020-12.2020**

OTHERS

Computer Skills & Software:

- SoildWorks, AutoCAD, 3ds Max, Rhino, SketchBook
- ANSYS (workbench), MATLAB, LTspice

- Adobe Premiere, KeyShot
- C language

Language: Mandarin (Native), English

Hobbies:

- Astronomy (The President of XJTLU Sagittarius Astronomy Club and Luoyang NO.1 Senior High School Astronomy Club)
- Robotics (Four designed robotic hand inventions)
- Tea culture *(*Vice President of tea club*)*
- 3D printing (Familiar with FDM and LCD 3D printers and the relevant project won the championship of the school competition)