Wenyu Yang 杨雯语

Information

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Education

- **M.Eng. Harbin Institute of Technology** **09/2019-Present**
  Advisor: Dr. Chengxi Lei Dept. of Mechatronics
  Research Topic：Plastic Deforming, Robotic, Mechanic
- **B.Eng. Ocean University of China** **09/2015-06/2019**
  Mechanical Design Manufacture & Automation
  GPA:3.21/4 Rank:8/63

IELTS: Total 6.5; *L7 R7.5 W6 S6*

Publications

- **Role of mandrel in variable curvatures local-induction-heating bending process of B1500HS thin-walled rectangular tube,** *Tingjun Cai, Chengxi Lei,* ***Wenyu Yang****, Hongya Fu, Zhongwen Xing.International Journal of Advanced Manufacturing Technology (IJAMT) (under review)*

Honors and Awards

- First scholar*(twice)* **2017/2018**
- Second Prize in 14th Mechatronics Innovation Competition. Shandong **2018**
- Second Prize in 7th National Marine Vehicle Design and Manufacture Competition. Wuhan. **2018**
- Second Prize in 6th "Internet +" innovation and entrepreneurship contest. Heilongjiang **2020**

Skills

- **Programming Skills:** C/C++, Matlab, Python
- **Robot Frameworks:** ROS, Gazebo
- **Tools:** Linux, Visual Studio, Pycharm, Keil, Solidworks, Ansys, Abaqus

Research Interest

- Plastic forming; Robotics; Control; Sensor Fusion; Numerical simulation.

Project Experience

- **2016.10-2017.06 UAV with manipulator based on binocular camera**
  - ·**Goal:** To build a UVA that is able to catch underwater objects automatically
  - ·**Method:** Visual-servo control, object detection, H-D kinematics model
  - ·**Innovative:** The mass of the manipulator is mainly located at its foundation, thus the movement of the end will not change the rotational inertia of the AUV
  - ·**Difficulties:** Transmission mechanism, hand-eye vision calibration
  - ·**Results:** Belt-driven & cable-driven manipulator is built, and is able to automatically catch objects guided by stereo camera.

- **2017.10-2018.06 Deformed Underwater Robot**
  - ·**Goal:** To build a UVA that is able dive/go forward quickly in different states
  - ·**Method:** Deformation structure, Buoyancy changing
  - ·**Innovative:** The center of mass and center of buoyancy changing according to different modes (drive & dive)
  - ·**Results:** 2 different modes for the UAV to dive or go forward more efficient is developed

- **2019.3-2020.06 Induction heating bending of High-strength steel tube**
  - ·**Goal:** To explore the mechanism of high strength steel tube hot bending forming
  - ·**Method:** Theoretical calculation, Numerical simulation, Experiment verification
  - ·**Innovative:** New technology to forming high strength steel tubes in free curvatures
  - ·**Difficulties:** Forming quality and forming accuracy
  - ·**Results:** New process is developed in high strength steel tube induction heating bending

- **2019.10- Dexterous hand (on-going)**
  - ·**Goal:** To build dexterous hand *(fingers)* driven by palm muscle movement
  - ·**Method:** Force sensing resistor, pattern recognition
  - ·**Innovative:** Sensory control of dexterous hand