

## EDUCATION

**Xi'an Jiaotong University** 09/2016-06/2020  
Major: Mechanical Engineering  
Bachelor's degree expected June 2020  
GPA: 84.13/100; Rank: 1/16 in major, 1/32 in school  
**UCLA | CSST Summer Session** 07/2019-09/2019  
GPA: 4.0/4.0  
**TOEFL:** 98 (R25 L25 S24 W24); **GRE:** 318 (150+168)

## HONORS & AWARDS

\*"The Pacesetter of Excellent Student" - Nomination Award, 24/13923, 0.17% 10/2019  
\* "Baosteel" Scholarship, 0.17% 10000RMB 10/2019  
\*"Shunde" Scholarship of Intelligently Manufacturing, 1%, 4000RMB 10/2018  
\*"Excellent Student" of XJTU, 20% 10/2019&11/2018  
\*"Outstanding Post 90s" of XJTU 11/2018  
\*"Siyuan" Scholarship, 40%, 1000RMB 10/2017  
\*2<sup>nd</sup> Prize of the "Challenge Cup" Academic Scientific Innovation Works Competition, 3% 05/2019  
\*2017 and 2018 World Robot Conference:  
-The Silver Medal & National 1<sup>st</sup> Prize - Robotic Technology Challenge Contest (2/18) and National 2<sup>nd</sup> Prize - Humanoid Robot 1V1 Fighting 08/2017  
-National 2<sup>nd</sup> Prize - ROS AI Innovation and National 3<sup>rd</sup> Prize - Robotic Technology Challenge Contest 08/2018  
\*Design and Optimization of Strawberry Picking Machine Project:  
-"Excellent Award" of National-level College Students Innovation and Entrepreneur Project 06/2019  
-1<sup>st</sup> Prize in 8th National College Students Mechanical Innovation Design - Shaanxi Division 05/2018  
-"Bronze Prize" of the 4th "Internet Plus" National College Innovation & Entrepreneurship Contest, 12% 07/2018  
\*2<sup>nd</sup> Prize in 2017 & 2018 SMC - Pneumatic Activity Room Innovative Production Making Contest 01/2018

## PATENTS & REPORTS

\***First inventor of three Patents** 01&03/2019  
-Design and Optimization of Strawberry Picking Machine:  
Patent No.: 201910051689.3; 201920099462.1  
-The Asepsis Freshness Retain Container Research:  
Patent No.: 201910222643.3  
\***Three Times' boarding the news homepage of XJTU**  
-Winning silver medal of robot contest:  
<http://news.xjtu.edu.cn/info/1009/79506.htm>  
-XJTU news-Outstanding 90s (individual report):  
<http://news.xjtu.edu.cn/info/1122/102156.htm>  
-Harvard internship qualification (individual report):  
<http://news.xjtu.edu.cn/info/1007/115310.htm>

## SKILLS

\***Hardware:**  
-Proficient in Arduino  
-Experienced in Raspberry Pi, STM32  
\***Coding:**  
-Excellent skills in MATLAB, C++  
-Experienced in python  
\***Software:**  
-Excellent skills in AutoCAD, SolidWorks, Inventor, ANSYS Workbench  
-Familiar with Gazebo, RVIZ, MoveIt, and other packages related to ROS.  
\***Metalworking:**  
-3D printing machine, CNC lathe, Laser-induced thermal etching machine, Laser beam cutting machine, Engraving & Milling machine.

## RESEARCH PROJECTS

**Research Assistant | Harvard Medical School | Massachusetts General Hospital | Neural System Group** *Mentor: Prof. Quan Zhang* 10/2019-Present  
\*Design a non-invasive superficial temporal artery (STA) blood pressure monitoring headgear  
\*Calibration of superficial temporal artery (STA) tonometry blood pressure monitoring sensor  
\*Learn Fluid-solid coupling analysis by ANSYS on blood, vascular wall, skin, and sensor  
\*Collect and analyze the clinical blood pressure data in Massachusetts General Hospital.  
**Intern Researcher | UCLA | Cross-disciplinary Scholars in Science and Technology | Biomechanics Lab** *Mentor: Prof. Veronica Santos* 07/2019-09/2019  
\*Utilized GelSight, an optical tactile sensor, to help robots to sense the cable buried under sand.  
-Estimated the orientation of cable in sand by GelSight, develop the precise rate to be 91.89%  
-Estimated the diameter of cable with a single touch by GelSight, and reduced the average error rate to be lower than 17%  
-Visualized the estimated diameter and orientation of cable in real time  
-Utilized AR method to superimpose the shape of the cable into camera image in real time.  
**Main Player | The Odor Leakage Traceability** 09/2017-07/2019  
\*Replaced the gas concentration field by gray scale image and set up the simulation environment, to test the traditional gas leakage algorithm  
\*Picked up with a new trace-ability algorithm of gas leakage and verify its validity  
\*Used Arduino to build the lower computer and write an motion steering control interface  
\*Designed a new method of gas leakage detection with infrared camera FLIR Duo, to find the source of gas leakage more accurately  
\*Constructed the experiment platform to collect and analyze the data.  
**Researcher | The Asepsis Freshness Retain Container Research** 09/2018-03/2019  
\*Designed a fresh-keeping pot based on the principle of goose-neck bottle, to keep food fresh for a long time under normal temperature, pressure and bacteria  
-Designed an Asepsis container for manufacture based on the goose-neck bottle principle  
-Completed the 3D modeling of the product, multi-round optimization, prototype assembling  
-Made prototype machine, and conducted assembling experiment to verify the design  
-Applied and published a patent (Patent No. 201910222643.3)  
**Team Leader and Main Designer | Design and Optimization of Strawberry Picking Machine Project** 05/2017-03/2019  
\*Designed a semi-automatic machine with functions of strawberry picking, short-distance transportation and packing.  
-Conducted field investigation of strawberry picking gardens 30 kilometers away, to measure the common environmental parameters and to make simply modeling of the strawberry ridges  
-Settled the overall structure of both picking machine and double-four links of manipulators  
-Calculated key parameters of the manipulator  
-Designed the drawing and positioning functions  
-3D modeling by SolidWorks, prototype assembling, debug and optimization  
\***Achievements:**  
-Made a flexible, applicable, practical and convenient strawberry picking machine and realized non-destructive picking of strawberries  
-Creative design on the manufacturing and sales strategies and write a business plan  
-Applied two patents (Patent 1 No.: 201910051689.3, Patent 2 No.:201920099462.1)

## CONTESTS

**Team Leader & Organizer | The 2017&2018 World Robot Conference** 2017 and 2018  
\***Contest 2017: Robotics Technology Challenge Contest & Humanoid Robot 1V1 Fighting**  
- Self-learned C++ programming, the theory of STM32 SCM  
- Robot designing, programming and debugging based on STM32  
- Hardware wiring, sensor and steering gear control of SCM  
\***Contest 2018: Robotic Technology Challenge & ROS AI Innovation Contest**  
- Self-learned Linux, Raspberry Pi, Arduino, and ROS techniques, such as RVIZ, GAZEBO, SLAM, and also understand related knowledge and package of face recognition  
- Utilized SLAM method to debug parameters and enhance movement efficiency of the robot  
- Programmed the moving track with C++ to implement moving to targets  
\***Achievements:**  
-A robot that can complete a series of tasks such as ball transportation and cylinder knocking  
-A humanoid robot that can fight with other robots  
-Humanoid structures with two simplified legs of a four-wheel differential chassis and two manipulators with three degrees of freedom  
-ROS: utilized "Voyager IV" to implement the robot patrol and face recognition collision.  
**Participant | "Challenge Cup" Shaanxi College Students Academic and Scientific Innovation Works Competition** 03/2019-05/2019  
\*Joined the new pollutant treatment technology design and micro-materials and micro-organisms  
\*Dealt with the pollutant "Lindane" based on existing landfill pollutant treatment system  
\*Manufactured a sterile container to store soil containing micro-nano & micro-organisms, to present the sterile environment of soils from external microorganism.