Yingfen Yi

YingfenYi2019@u.northwestern.edu | (425)208-6199 | www.linkedin.com/in/yingfen-yi/

Enthusiastic ME master graduate with internship experience at Robotics company.

Designed and controlled a biomimetic mechatronic system and an automated guided car. Designed and prototyped wearable camera case and 3D printer. Experience with Solidworks, MATLAB, C and Python.

Education

Northwestern University, Evanston, IL — June 2019 (anticipated)

Master of Science in Mechanical Engineering — Specialization in Robotics and Control — GPA: 4.0/4.0

Xi'an Jiaotong University, Shaanxi, China — June 2017

Bachelor of Science in Mechanical Engineering — Specialization in Mechatronics — GPA: 3.9/4.0

Skills

- Computing Skills: Solidworks, AutoCAD, Autodesk Inventor, MasterCAM, UG-NX, SQLite, EAGLE; MATLAB, Mathematica, ROS, C, Python, Java
- Laboratory Skills: 3D printing, PCB design, wiring, Micro-controller (PIC32), CNC machining, laser cut
- Language: Chinese(native), Cantonese(native), English(fluent)

Work Experience

Songshan Lake Xbot Park, Guangdong, China — February 2017 – April 2017

Robotics Engineer Intern

- Collaborated with another 5 professional engineers in different fields on massage robot development
- Designed a prototype of head massage robot based on spherical parallel manipulators with ***Solidworks*** and ***UG-NX***
- Aided in kinetic analysis and workspace configuration of the robot on ***MATLAB***
- Optimized parameters of the robot according to the analysis result with GA(genetic algorithm)

Projects

Object Texture and Shape Recognition with Bionic Whisker Sensor, Evanston, IL — April 2018 – Present

- Design and construct a bionic electro-mechanical system for better simulation of rats' whisking motion according to the pilot experiment, including parts selecting, connectors ***3D printing*** and protoboard building
- Verify and calibrate the design to realize anticipated motion with DC motor and stepper, using ***Python*** and ***C***
- Conduct system troubleshooting and debugging to ensure automatic data acquisition
- Process and analyze the vibration signal from the sensor with ***MATLAB***

Case Design for Wearable Camera, Evanston, IL — June 2018 – Present

- Design the case for wearable cameras specifically for health monitoring with ***Solidworks***
- Derive and prototype 3 types of cases for different application scenarios, including brooch, gripper, and necklace
- Collaborate and communicate with a multidisciplinary team of more than 10 scientists to interpret product requirements and customize the case; review and calibrate the design several times for better performance

Design and Control of Automated Guided Vehicle, Evanston, IL — April 2018 – June 2018

- Independently navigated the vehicle to move along desired trajectory by analyzing the real-time image from the camera, using ***Java*** and ***C***; Applied PI feedback control to calibrate the moving path automatically
- Designed and constructed the core control circuit using ***EAGLE***
- Designed the structure of vehicle with ***Solidworks*** and built the hardware using ***3D printing*** and ***laser-cut***
- Established SPI communication between the vehicle and onboard phone with a camera to perceive the environment

Crawling Flaw-detecting Robot in Pipelines, Shaanxi, China — March 2016 – July 2016

- Served as team leader organizing team meetings, delegating tasks, and writing design specification for the robot
- Designed a robot with built-in power supply which could detect cracks and flaws in different-sized pipelines with ***Solidworks*** and ***Inventor***
- Implemented parameter calculation and electronic components selection