Xiaorui Zhang

2001 West Cold Spring Lane, Baltimore, MD 21209
518-244-0251 xzhan227@jh.edu linkedin.com/in/xiaorui-zhang-0802871a4

Education

Jhons Hopkins University **Jan. 2021 – Present**
Master of Science in Robotics *Baltimore, USA*

- 601.663 Algorithm for Sensor Based Robotics (A-)
- 520.623 Medical Image Analysis (A)

Israel Institute of Technology – Technion **Sep. 2016 – Aug 2020**
Bachelor of Science in Mechanical Engineering (Summa Cum Laude) *Haifa, Israel*

- BSc in Mechanical Engineering (Robotics Track) GPA: 92.3/100
- Highest Scholarship for 4 Years.
- Technion's President's List of Honor (5th, 6th, 7th, and 8th Semesters.)
- Faculty's Dean's List of Honor (1st, 2nd, 3rd, and 4th Semesters).

Projects

Automated Cardiac Diagnosis Challenge (ACDC) | *Pytorch, Deep learning* **March 2021**

- Completed an automated pipeline to tackle the ACDC using Deep Learning. Including, data prepossessing, segmentation, features extraction, and classification.
- Modified the original 2D UNet to perform better in our task after understood it thoroughly.
- Extracted dynamic and instant features from the segmentation result to train an ensemble of MLP and random forest classifiers for classification task.
- Won the first place in class competition, and our classification results ranked TOP 10 on the leader-board.

Automated COVID-19 Test Tube Organizer | *C++, MATLAB, Arduino, SolidWorks* **March 2020**

- Helped to create an automated COVID-19 test tube sorting and organizing robot that effectively increased COVID-19 testing speed at selected labs in Israel.
- Designed and built the cutting mechanism that cut open the sealed packing bags of the tubes.
- Using programmed Arduino and X-Y table to send the tube tray to the right location, coordinating with the sorting mechanism to help putting the test tubes into desired rack locations.
- Designed a PCB board to clean up the system circuit, established communication between cutting and sorting mechanisms and the X-Y table.

MATLAB BASED 2 FINGER BASKET GRASPS RESEARCH | *MATLAB* **Sep 2019**

- Developed contact space contour for any given 2D polygon.
- Computed the layout of all possible-basket grasp of an object at a given position.
- Along the basket-grasp contour, computed the depth (and hence security) of a candidate basket-grasp.
- Found critical drop-off where the fingers open along a fixed line.

Technical Skills

Languages: Familiar with Python, C++, MATLAB, experience with HTML/CSS, JavaScript
Deep Learning: Familiar with Pytorch
Robotics: Familiar with Linux and ROS (Gazebo, Rviz, Jackal, UR5)

Leadership / Extracurricular

CHINESE STUDENTS AND SCHOLARS ASSOCIATION(CSSA) **Spring 2018 – fall 2019**
President *Technion*

- Established the first Israel Chinese Basketball League for all universities in Israel; organized it yearly.
- Organized Chinese day in Technion, introduce traditional Chinese culture and festival through out a series of workshop and events.