

# Yixuan Wang

+1 (734) 546-8061 | yixuanwa@umich.edu | 1760 Broadway St., Apt. N205, Ann Arbor, MI 48105

## EDUCATION

<b>University of Michigan, Ann Arbor (UM)</b>	Ann Arbor, MI
<i>B.S. in Computer Science (GPA: 4.0/4.0)</i>	09/2019 - 05/2021(Expected)
Courses: Data Structure& Algorithm; Introduction to Machine Learning; Autonomous Robotics; Introduction to Computer Vision; Deep Learning for Computer Vision; Introduction to Embedded System Design	
<b>University of Michigan - Shanghai Jiao Tong University Joint Institute</b>	Shanghai, China
<i>B.E. in Mechanical Engineering (GPA: 3.82/4.0 Rank: 1/56)</i>	09/2017 - 08/2021 (Expected)
Courses: Dynamics& Vibrations; Thermodynamics; Solid Mechanics; Fluid Mechanics; Design and Manufacturing	

## ACADEMIC EXPERIENCE

<b>Tracking Partially-Occluded Deformable Objects while Enforcing Geometric Constraints</b>	Ann Arbor, MI
<i>Research Assistant, Supervisor: Dr. Dale McConachie, UM Autonomous Robotic Manipulation Lab</i>	05/2020 - Present
<ul style="list-style-type: none"><li>Improve posterior constraints of GMM EM algorithm to handle obstacle interaction and self-intersection of deformable objects</li><li>Incorporate prediction model of deformable object to handle severe occlusion during the tracking</li><li>Validate ideas in simulation environment and real experiments</li><li>Wrote the research paper targeting at International Conference on Robotics and Automation</li></ul>	
<b>Model-free Control over Soft Robots' Shape based on Visual Information</b>	Ann Arbor, MI
<i>Research Assistant, Supervisor: Dr. Audrey Sedal, UM Compliant Systems Design Laboratory</i>	09/2019 - Present
<ul style="list-style-type: none"><li>Segment soft robots in real time based on texture segmentation using Gabor filter and k-means clustering</li><li>Keep track of the shape based on Bezier curve fitting and Ceres solver</li><li>Apply Deep Q-Learning to control soft robots' shape</li></ul>	
<b>Vehicle based on Transformable Wheels and Caterpillar Bands</b>	Shanghai, China
<i>Project Leader, Instructor: Prof. Jaehyung Ju, Design and Manufacturing II</i>	05/2019 - 08/2019
<ul style="list-style-type: none"><li>Designed the structure of transformable wheels and the whole vehicle</li><li>Wrote the code for controlling and auto turning based on Arduino</li></ul>	
<b>Robot Arm with a Soft Gripper</b>	Shanghai, China
<i>Project Leader, Advisor: Prof. Jaehyung Ju, Design and Manufacturing I</i>	02/2019 - 05/2019
<ul style="list-style-type: none"><li>Designed the mechanical structure of the robot arm and soft gripper</li><li>Wrote the code for teleoperating and controlling of the vehicle</li></ul>	

## PUBLICATION

- Wang, Y.**, McConachie, D., Berenson, D., "Tracking Partially-Occluded Deformable Objects while Enforcing Geometric Constraints", *The 2021 International Conference on Robotics and Automation (ICRA 2021)*. [Under review]

## EXTRA-CURRICULAR ACTIVITIES

<b>Teaching Assistant of Honor Physics I, UM-SJTU Joint Institute</b>	09/2018 - 12/2018
<b>Teaching Assistant of Honor Calculus II, UM-SJTU Joint Institute</b>	05/2019 - 08/2019
<ul style="list-style-type: none"><li>Organized recitation class and office hour to promote students' understanding of course</li><li>Graded the assignment and examination to judge level of students fairly</li></ul>	
<b>Student Advisor, UM-SJTU Joint Institute Advising Center</b>	09/2018 - 08/2019
<ul style="list-style-type: none"><li>Solved problems of freshmen students about study problems and major choice</li><li>Organized workshop about research opportunities, internship and program application for students</li></ul>	

## SKILLS

**Programming:** C++, MATLAB, C, Python, ARM  
**Application:** CATIA, Origin, SolidWorks, Arduino, LabVIEW, OpenCV, SmartFusion, PyTorch, Qt, ROS, Blender

## HONORS & AWARDS

Jackson and Muriel Lum Scholarship	09/2019
Undergraduate Merit Scholarship (Top 10%)	08/2019
Undergraduate Merit Scholarship (Top 10%)	08/2018
National Encouragement Scholarship	09/2018
John Wu & Jane Sun Sunshine Scholarship	09/2018
SJTU Outstanding Student	09/2018
Yu Liming Scholarship	09/2017