Mingyu Wang   **(206) 849-6176 | Edward.n.518@gmail.com | www.linkedin.com/in/wmy001**

SUMMARY OF QUALIFICATIONS
- Experienced in developing an autonomous system that uses computer vision techniques to drive a 6-degrees-of-freedom robotic arm to accomplish manipulation tasks.
- Practical leadership and management skills as demonstrated through working and school projects
- Programming: Python, MATLAB, C++
- Software: ROS, Siemens NX, OpenCV, Pytorch, Apache Spark, ANSYS

EDUCATION
University of Washington, *Seattle, WA*   Sep. 2018 - Jun. 2021
Master of Science in Mechanical Engineering, GPA:3.5
Michigan State University, *East Lansing, MI*   Aug. 2013 - Aug. 2017
Bachelor of Science in Mechanical Engineering

WORKING EXPERIENCE
Xiamen Ditai Imp. & Exp. Co., Ltd., *Xiamen, China*   Sep. 2017- Aug. 2018
- Led the design and manufacturing department to develop new metal knives and tableware.
- Collaborated with the automation team to develop and implement five customized 4-degree-of-freedom robotic arms that pick and place semi-finished products into injection molding machines for further process.
- Introduced 3D printing to make prototypes, leading to a shortened production cycle from 20 days to 14 days.
- Discussed with ERP, MES system providers, compared the software features and organized the factory's manufacturing documentation for future manufacturing system implementation.

Lab Assistant, MACS Lab, University of Washington   Jun. 2021- present
- Introduced the Lab new members about the existing research projects and robotic related knowledge
- Helped to configure the system and debug the projects

PROJECT EXPERIENCE
UR5e Robotic Chess Player (Thesis), University of Washington   Sep. 2020 - Jun. 2021
- Developed a robotic system using ROS to play physical chess against humans, with an integrated vision system for chess-piece localization and AI-based pieces classification and automated training data collection and augmentation.
- Automated chessboard localization based on a 3D pose estimation algorithm developed in the lab with a calibrated camera.
- The transfer-learning-based neural network achieved 98% successful chess classification.
- Identified the impact of light changes on the performance of chess classification.

Air Pollution Mapping and Prediction Course Project, University of Washington   Apr. 2019 - Jun. 2019
- Led a team of 3 graduate students; set project goals and milestones, allocated tasks for team members, and successfully delivered the project.
- Utilized Apache Spark analytic engine to process large-scale atmospheric data.
- Examined the PDE-FIND algorithm with data to generate a governing equation of the air pollution flow.
- Applied the least square method on the last month's data to validate the prediction.

Fish Robot Research Project, Michigan State University   May 2017- Aug. 2017
- Proposed a feedback control system for a fish robot.
- Optimized electronics and actuators and conducted on-board testing.
- Investigated the advantages and feasibility of CNC machining vs. 3D printing for robot design.

Air-handling Unit Stiffener Design, Michigan State University   Jan. 2017- May 2017
- Managed a team of 5, coordinated different design concepts, allocated tasks, and removed project obstacles.
- Designed the stiffener with Siemens NX and analyzed the impact of potential factors on the surface deflection using ANSYS.
- Improved the company's original design, resulting in a 30% cost reduction and 13% performance enhancement.

Simple Jack Lifter Design, Michigan State University   Jun. 2016- Aug. 2016
- Managed a team of 4, organized a weekly meeting, and planned the work schedule.
- Analyzed the key factors that influenced the evaluation of the jack lifter.
- The design achieved the highest elevation, the second carrying weight, and received the highest overall score.