Donghao Li

+1 (510) 415-8673 ● donghao@umich.edu ● [Linkedin](#)

EDUCATION

University of Michigan-Ann Arbor, MI   GPA: 4.00/4.00

M.S. in Robotics   April 2024

Core Courses: Mobile Robotics, Deep Learning for Robot Perception, Robotic Systems Laboratory, Math for Robotics, Robot Learning for Planning and Control, Mobile and Pervasive Sensing and Computation

University of Wisconsin-Madison, Wisconsin   GPA: 3.76/4.00

B.S. in Computer Science & Biological System Engineering - Machinery   May 2022

SKILLS

Programming: Python, C++/C , Java, MATLAB

Tools: PyTorch, ROS, CFD, Linux, CAD, Ansys, Arduino, Git, LaTeX

Topics: Computer Vision, Machine Learning, Deep Learning, Path Planning, 3D Modeling, SLAM

WORK EXPERIENCE

Dassault Systèmes Delmia R&D   **Auburn Hills, MI**

Robotics Algorithm Software Engineering Intern   May 2023-Present

- Research of various robot arm path planning algorithms implemented in ROS MoveIt and potential areas of integration with the 3D Experience Robotics solution.
- Development of various solver algorithms that relate to industrial robotics and robot path planning.
- Engagement in discussions that relate to code design, architectural designs and feasibility of development in industry.

PROJECT EXPERIENCE

Enhanced Visual Checkout System   *[[PDF]](#)*   Sept 2022-Dec 2022

EECS 598: Mobile and Pervasive Sensing and Computation   *University of Michigan*

- Designed a vision-based system improves accuracy of product detection in Autonomous store at low-light conditions.
- Collaborated with three other projects to construct a robust enhanced visual detection system containing: an Unreal Engine simulation for training data, mask extraction of hand pose, and best-camera-angle selection etc.

Loc-NeRF++ : An Enhanced Robot Localization using Neural Radiance Fields *[[PDF]](#)[[Code]](#)*   Jan 2023-May 2023

ROB 530: Mobile Robotics   *University of Michigan*

- Reproduction of Loc-NeRF, a real-time Monte Carlo localization method uses NeRF as a map representation.
- Achieved efficient localization performance with adaptive particle filter by using KLD-Sampling method.
- Evaluated on both indoor (LLFF) and novel largescale outdoor (OMMO) NeRF datasets.

Ordinary Differential Equation Based Learning Dynamics for Robotic Systems *[[PDF]](#)[[Code]](#)*   Jan 2023-May 2023

ROB 498: Robot Learning for Planning and Control   *University of Michigan*

- Compared Panda robot arm planar pushing task behavior on discrete numerical differential equation based networks (ResNet, PolyNet and FractalNet) and continuous neural ordinary differential equation based network.
- Evaluated learned models on an open-source forward dynamics dataset collected by using KUKA LWR and Baxter.

RESEARCH EXPERIENCE

Defect Detection in Microscopy Images   May 2021-Sept 2021

Informatics Skunkworks Lab, Supervised by: Prof. Dane Morgan   *University of Wisconsin*

- Practiced skills in object detection and tracking on abundant minuscule objects in microscopy images.
- Examined applicability of computer vision technologies like TrackPy, Yolo, DeepSort with material defection videos.

Smart Air Supply System for Dairy Cows   Jan 2020-May 2022

Heat and Mass Transfer Lab, Supervised by: Prof. Christopher Choi   *University of Wisconsin*

- Led CFD simulation works in a senior design group and two semesters of independent study.
- Modeled and tested novel system using CFD to simulate heat and airflow on the body surface of dairy cows in the ventilated barn.