

Che Chen (C.C)

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Seeking internship for Summer 2024. Strong interest on Robotics R&D and related software engineering.

Education

University of Michigan

M.S. in Robotics, GPA: 3.85/4.00

Sep. 2023 - May 2025 (*expected*)

University of Michigan

B.S.E in Computer Engineering, GPA: 3.94/4.00

Sep. 2021 - May 2023

Selected Courseworks: Data Structure and Algorithms, SLAM, Control Systems, Deep Learning and Computer Vision

Publications

- Safe Planning for Articulated Robots Using Reachability-based Obstacle Avoidance With Spheres [\[link\]](#)
- Can't Touch This: Real-Time, Safe Motion Planning and Control for Manipulators Under Uncertainty [\[link\]](#)

Research and Work Experiences

Field Robotics Group

Research Assistant

Ann Arbor, MI

Sep 2023 - Present

- Event camera based neural rendering with dynamic objects

ROAHM LAB

Research Assistant

Ann Arbor, MI

May 2022 - Present

- Cooperated with 7 researchers on a safe motion planning and control framework. [\[link\]](#)
- Conducted System Identification on Kinova Gen3 and ensured all parameters fell within a 5% tolerance bound.
- Created a real-time robot control framework for easy integration, utilized in 2 projects.
- Implemented a **robust controller** using interval arithmetic, ensuring tracking error below 0.0049 rad.
- Devised and Implemented **Pytorch** algorithms to rapidly calculate edges of 2D zonotopes for collision checking

Petoi LLC

Intern Robotics Engineer

Remote

May 2022 - Aug. 2022

- Developed a ROS Interface to connect Petoï's OpenCat firmware into ROS community
- Applied a **human pose detection** model to map human postures to robot cat

Project Experience

Vox-Fusion-Robust

Course Project for *Mobile Robotics* by Prof. Maani Ghaffari

Mar. 2023 - Apr. 2023

- Led a team of 5 students to complete a **NeRF-based SLAM** project
- Enhance a SOTA NeRF-based SLAM project to be robust to global illumination change
- Created datasets of more than 10 scenes to evaluate SLAM algorithm robustness to global and local illumination changes

Realtime and Virtual Driving Simulator

MultiDisciplinary Project (MDP) by Prof. Paul Green

Feb. 2022 - Apr. 2023

- Led a group of ~10 students in software development
- Developed Joystick Interface on Linux for Carla Simulator
- Refactored and enhanced Wizard project to provide low-cost (~200\$) self-driving car simulation

Table Tennis Ball Collector for Use in Multi-ball Training

Introduction to Embedded System Design by Prof. Robert Dick

Feb. 2022 - Apr. 2022

- Designed a computer vision algorithm utilizing a single RGB camera to accurately estimate the 3D position of ping pong balls.
- Manufactured a simple but efficient ping pong ball collection device with **3D printing** and rubber bands

Skills

Programming Language C++, Python, MATLAB, Julia, HTML/CSS, Bash, \LaTeX

Software ROS (1&2), Docker, Git, Emacs, Linux, Pytorch, Carla, Fusion360

Knowledge Robot Kinematics & Dynamics, Control System, SLAM, Computer Vision, Embedded System, Machine Learning, Computer Network, Multithreaded Programming