Terry Tao



terrytao19@gmail.com

631-951-7354



terrytao19.github.io/portfolio 🔇



Objective

Education



Looking to begin my career by applying experience from MRacing, FIRST Robotics and personal projects. Seeking to further develop my practical knowledge with strong technical mentorship at an automation, controls, or systems focused internship opportunity during spring-summer 2023.

University of Michigan | ANN ARBOR, MI

B.S. Robotics Engineering

- AUG 2022 APRIL 2025 MATH 216 | Differential Equations
- ROB 101 | Computational Linear Algebra
- PHYS 240 | Physics E&M
- ROB 102 | Al and Programming Robots

Harborfields High School | HUNTINGTON, NY

Advanced Regents Diploma GPA: 4.0

AP Scholar With Distinction

SAT - 800 Math, 750 English

Projects and Activities

(SEE PORTFOLIO)



(See YouTube)



Autonomous Formula Electric Racing (MRacing)

SEPT 2022 - PRESENT

2018-2022

- Developing a full stack autonomous (SLAM + trajectory planning) package for our 2023 racecar
- Integrated regressed track radius data and vehicle velocity to build an overhead map of the racetrack using a single monocular camera
- Implemented a perspective-n-point algorithm to extract xy positions of cone landmarks
- Programmed a track boundary estimator and track mid-line regression algorithm
- Trained a custom YOLOv7 object detection model for cone detection

FIRST Robotics (FTC)

2018-2022

- Ranked top 40 internationally at Maryland Tech Invitational (2022)
- CAD lead, Co-programmer, Club President (2022)
- Iteratively Designed mechanisms in CAD to manipulate small plastic objects efficiently (grippers, conveyors, linear slides, drivetrain, etc.)
- Programmed a triple dead-wheel odometry localizer to perform tasks fully autonomously and optimized velocity trajectories to achieve high scoring rates

Stewart Platform

2021

- Designed a 6-DOF parallel manipulator as a research project
- Developed kinematics and dynamics control algorithm
- Implemented IMU acceleration dampening on end effector

Other

2019-2021

- Designed and built a custom dual-nozzle 3D printer to print dissolvable support material
- Developed silicone tether-less pneumatic artificial muscles for a regional ISEF competition

Skills

Programming: Java | Python | C++ | MATLAB | Simulink | Julia | Mathematica | OpenCV | Pytorch Software: Solidworks | Fusion 360 | Onshape | Simplify3D | Blender | Supervisely | Roboflow | MS Office **Spoken Languages:** Mandarin (Native)

Leadership

Robotics Club President Senior Patrol Leader (Boy Scouts)

2021-2022 2020-2021

Other **Activities** Michigan Climbing Club Boy Scouts of America Varsity Golf, all-county

2022-PRESENT 2016-2021

2018-2020