Summary

Name : Zhenyu Dai (Daniel)
Email/Phone : daidan1el1224@gmail.com/+44 07410944299
Main interests : Robotics and automation.
Website :

Formal Education

2024-current

Master in M.Sc. Robotics: University of Manchester, Sep. 2024 – current

- 1 Year course providing wide range of skills related to robotics covering aspects such as basic theory (Robotic systems, Foundation of machine learning), software (Software for Robotics, Cognitive Robotics and Computer Vision), hardware (Robotics manipulators, Autonomous mobile robots), practical work (Leo Rover group project).

2021-2024

Bachelors in Mech. Eng: University of Manchester, Sep. 2021 – Sep 2024, 2:1

- 3 Year course providing wide range of basic skills related to mechanical engineering covering aspects such as basic theory (thermodynamics, structures, fluid mechanics), practical work (workshop experience), numerical simulations (CFD and FE), instrumentation (sensors, data acquisition) and mechanical design with CAD (Solidworks)

2023 Summer

Internship in robotics: ECOPTI Innovation, Xiamen, China, Aug. 2023 – Sep. 2023

- CAD design (SOLIDWORKS) for automated food transportation system for the restaurant industry.
- Contacting suppliers for sourcing components for robotic system
- Discussions with office team members with wide range of expertise (electrical, mechanical, etc.) for troubleshooting of issue in design

Relevant Experience

2023

Final project regarding to robotics: University of Manchester, Sep. 2023 – Sep. 2024

- Topic: "Magnetic Driven Efficient Actuator Design in Response to Industry 5.0"
- Develop novel ideas and design framework for soft robot actuators that have improved actuation speed and responsiveness compared to current designs using soft materials and electromagnetic actuation
- Develop simple simulations for testing and verification of actuator design performance

2023

Personal project with microcontrollers: Aug. 2023 – current

- Studying the basics of microcontroller using Arduino as a learning tool
- Studying microcontroller programming using Arduino IDE
- Studying circuit design and sensors for use with microcontrollers

2023

Matlab Courses on Machine Learning: Matlab, July. 2023 – current

- Self-paced online course on Matlab Academy website including topics such as:
  - Basic Machine Learning On-ramp: identification of handwriting from pressure sensor data using KNN model, including data processing, training and testing
  - Reinforcement Learning On-ramp: Setting/define up agents and environments (automated guided vehicles), training agents, visualization

2021 - 2024

Robotics related modules in Mech. Eng.: University of Manchester, Sep. 2021 – Sep. 2024

- Course modules in my bachelor's studies relevant to robotics:
  - Electronics (Year 1): Analysis and design of electronic circuitry
  - Design (Year 1, 2 & 3): Design of mechanical systems using CAD (SOLIDWORKS)
  - Dynamics (Year 2): Rigid body motion of arm assembly with multiple joints and DOF
  - Data acquisition (Year 2): Design of data acquisition system code using LabView and Matlab to control automated measurements from a proximity sensor on a moving assembly
  - Control Engineering (Year 3): Open and closed control loops, application of PID systems for robotic control

2019

Business simulation competition : high school, 2019

- Design of business model based on specific parameters (product, labour and geographic choices) to maximise profit.
- Finished top 10 in 5 round business competition between 20 model companies.