

Qiyao Lin

qiyao.lin@andrew.cmu.edu | 7737502298
5030 CENTRE AVE, PITTSBURGH, PA 15213

Education

Carnegie Mellon University

M.S. in Mechanical Engineering - Advanced Study

Pittsburgh, Pennsylvania

Aug. 2024 – Present

Illinois Institute of Technology

BE in Mechanical Engineering | GPA: 3.585 (Major: 3.643)

Chicago, Illinois

Aug. 2019 – Dec-2023

Honors: Dean's List (Three Times from Fall 2021 to Fall 2022)

Skills

Mechanical Design: Solidworks, AutoCAD, Inventor, Rhino7

Programming: MATLAB/SIMULINK, Python, PyTorch

Mechatronics & AI edge device deployment: Raspberry Pi, Arduino, Thingspeak, OpenCV, Visual model training, Large model distillation/quantization, Model deployment

Research Experience

Hydrogen barrier coating for key gas transmission equipment

Zhengzhou University

Core Member, Advised by Dr. Wenzhuo Wu (Associate Research Fellow)

May 2023 - Aug 2023

- Nominated as the Qualifier at Zhengzhou University in the 2023 Energy Equipment Innovative Design Competition for China Postgraduate
- Optimized the mechanical parameters of the key devices, including ball mills, ultrasonic oscillators, centrifuge, to ensure the successful fabrication of functional 2D materials with uniform size and stable performance
- Participated in building the apparatus for deuterium permeation tests for In the subsequent hydrogen barrier coating test

Pt/GaN Heterostructure Electrocatalyst

Zhengzhou University

Core Member, Advised by Dr. Wenzhuo Wu (Associate Research Fellow)

May 2023 - Aug 2023

- Used the CHI-660E electrochemical workstation to conduct electrochemical tests on catalysts, and collected current density data
- Published an SCI paper "Super high alkaline electrochemical hydrogen evolution on Pt/GaN heterostructure" in the ChemNanoMat journal

Establishment of a Distributed Fiber Optic Alarm Verification System Based on an Automated Unmanned Aerial Vehicle (UAV) Field

Langfang, Hebei, China

Core Member, Advised by Dr. Yunfeng Zhao

Dec 2022 - Feb 2023

- Assisted in the research and development design of the mechanical lifting system for the automated unmanned aerial vehicle field
- Completed online PID tuning of the lifting pole to achieve rapid and smooth operation and ensure the unmanned aerial vehicle maintains stable coordinates during the elevation process

24671 Electromechanical system design

Pittsburgh, Pennsylvania

Advised by Prof. Mark Bedillion

Aug 2024 - Dec 2024

- Based on yolov5, a weight model for baseball recognition is trained and the structure is optimized for lightweight deployment.
- Design the target detection step search logic and write scripts to output instructions to the lower computer.

MMAE 419 Materials Science and PID Control

Chicago, Illinois

Advised by Prof. Murat Vural

Sept. 2022 - Dec. 2022

- Use tensile strength testers, Charpy impact testing machines, etc., to test the physical properties of metals such as strength, plasticity, hardness, toughness, fatigue strength, etc. and use Excel to complete data analysis
- Use MATLAB to simulate the PID control system with different input values and obtain the output rules.

Study of Testing Technology and Equipment in the Station Process Pipeline

Langfang, Hebei, China

Core Member, Advised by Prof. Qingshan Feng

May 2021 - Aug 2021

- Conduct research on production requirements for in-pipe inspection of process pipelines at oil and gas transfer stations, and analyze and summarize the current state of technology both domestically and internationally.
- Designed the intelligent loading platform and developed the smart mechanical arm for loading laser radars and dry coupled ultrasonic probes
- Apply inventor to conduct FEA analysis to strengthen the platform structure and reduce the structural weight.

MMAE 319 Circuit and Hydrodynamic Experiment

Chicago, Illinois

Advised by John Bernhardt

Jan. 2022 - May. 2022

- Applied a thermistor sensor, amplifier, and DAQ connected to a MATLAB control program to achieve temperature regulation of the heating mantle for the beaker
- Established the Jet Impact experimental platform to measure the impact force on vanes of various geometries from a constant nozzle water jet, and derived the relationship between the impact force and the force-receiving surface