Li-Wei Yang

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EDUCATION

National Taiwan University Taipei, Taiwan
Bachelor in Biomechatronics Engineering 2018-2022

- **Overall GPA: 3.97/4.30, Rank: 2/54**
- Received **Dean's list Award** (GPA ranked top 5% in a semester)
- Relevant Coursework: Automatic Control (**A+**), Machine Learning (**A+**), Robotics (**A**), Digital Image Processing(**A**), Data Structures and Algorithms (**A-**)

SKILLS

Programming

- Python (PyTorch, OpenCV), MATLAB (Robotics System Toolbox), C/C++, Java, C#, Latex, Kotlin

System

- Ubuntu, Kali Linux, Arduino, **Texas Instrument F28388D**

Software

- SOLIDWORKS, **ROS**, **GAZEBO**, Simulink, Qt, 3D Slicer, Android Studio, Endnote

English proficiency

- TOEFL ibt: Total: 99, Listening: 30/30; Reading: 30/30; Speaking: 20/30; Writing: 19/30
- GRE General: Total: 325, Quantitative: 169/170; Verbal: 156/170; Writing: 3.5/6.0

RESEARCH EXPERIENCE

Robots and Medical Mechatronics Lab (RMML) Taipei, Taiwan
Undergraduate researcher, advisor: Ping-Lang Yen Sept. 2020-Mar. 2022

- ***Smart cyber-physical system of a remote specimen collection robot***
  - Developed a statistical morphing oral model that fits the oral cavity in 3D Slicer, and build a simulation environment in GAZEBO for the operator to do the specimen collection.
  - **Won sponsorship from the Ministry of Science and Technology (MOST).**
  - Contained the RMSE of landmarks below 4 mm.
- Designed the torque of a counterbalance using MATLAB, which improved the motion of lab-designed specimen collection robot.

Center for Artificial Intelligence and Advanced Robotics (AIROBO) Taipei, Taiwan
Research Assistant, advisor: Li-Chen Fu Feb. 2022-present

- ***Companion Healthcare Aid Robot Manager***
  - Stabilized a photo chatting system based on image understanding to proactively drive the reminiscence process in social interactions with elderly users.
  - Connected an ECG smartwatch to robot via BLE protocol, which aid the diagnosis of heart diseases.
  - Maintained an SQL server to store physiological data from the smartwatch.

PUBLICATIONS

2022 International Conference on Advanced Robotics and Intelligent Systems
#1079 Smart Cyber-physical System of a Remote Swabbing Robot

LEADERSHIP EXPERIENCE

Mobile Lost and Found - MLF6110 Taipei, Taiwan
Team leader, related course: Robotics Jan. 2022

- Led the team to integrate an object searching robot using RealSense D435 and RPLIDAR-A1.
- Implemented DWA and AMCL navigation methods.
- Applied BRISK and RANSAC algorithms in object searching.

Dynability5 Taipei, Taiwan

Team leader, related course: Medical Mechatronics and Control Dec. 2021

- Built a 5 DoF manipulator that aim to deliver water bottle for people with physical disability.
- Concatenated various frequency filter and amplifier to collect clear EMG signal.
- Fine-tuned an SVM classifier to classify EMG pattern for manipulator control, achieve 90% accuracy.