Li-Wei Yang

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EDUCATION

National Taiwan University — Taipei, Taiwan
Bachelor in Biomechatronics Engineering — 2022 (expected)
- **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 (in progress), Principles and Applications of Digital Image Processing(**A**),

SKILLS

Programming
- Python (PyTorch, OpenCV, NumPy), **ROS**, C/C++, C#, Qt, MATLAB, etc.

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

Software
- SolidWorks, Simulink, **GAZEBO**, 3D Slicer, 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 — Sept. 2020-present
- ***Smart cyber-physical system of a remote specimen collection robot***
  - Objective: develop a morphing statistical oral model that fit the oral cavity in a short time 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)**
- Designed a counterbalance using MATLAB to calculate the torque needed, which improved the motion of lab-designed specimen collection robot.
- Participated in Biomechatronics Field Robot Competition
  - Constructed control program on Texas Instrument F28388D microcontroller using C/C++ to enable PID speed control.

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 a SVM classifier to classify EMG pattern for manipulator control

Azalea Festival Project — Taipei, Taiwan
Team leader — Jan. 2021-Mar. 2021
- Led the team to build a Spirograph drawing machine from scratch
- Designed an adjustable linkage mechanism
- Filmed a recruit video to promote Biomechatronics Engineering