Yim Lai Sum

Contact Information:
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Hobbies
Playing sports (Table tennis , Basketball , Track and Field),
Reading , watching movies , photography

Research Interest
Innovation , Mechanism and Product design , Robotic , VR/AR

Education

02/2020 -   now
M.S. in Robotics
National Yang Ming Chiao Tung University (NYCU), Taiwan.

09/2015 - 07/2019
B.S. in Mechanical engineering
National Chung Cheng University (CCU), Taiwan.

09/2009 - 07/2015
Secondary school
T.W.G.Hs Li Ka Shing College (LKS), Hong Kong.

Publication

2021
TEST PIECE, DETECTION METHOD AND DETECTION DEVICE OF DENTAL CARIES FACTORS (Patent Number : I718431)
The detection method and detection device of dental caries factors are further disclosed to detect the concentrations of the dental caries factors for estimating cavity risk.
Responsibilities:
- Inventor

2021
WFH-VR: Teleoperating a Robot Arm to set a Dining Table across the Globe via Virtual Reality (First author)
We present Work-from-Home Virtual Reality (WFH-VR), an easy-to-deploy, virtual reality-based teleoperation system for controlling a robot arm. Our system is constructed using a consumer-grade virtual reality device and a low-cost robot arm. Our system synchronizes the robot arm and objects in virtual reality and the real environment.
Responsibilities:
- VR teleoperation system developer - handing control interface
- Researcher - experiment on setting a dining table via VR teleoperation

Competition

2016 - 2017
International Genetically Engineered Machine Competition, iGEM (Awards: Silver Medal)
It is a worldwide synthetic biology competition. Our team innovate a detecting instrument that evaluates the risk of tooth decay with saliva, named Carindex.
Our website: http://2017.igem.org/Team:CCU_Taiwan
Responsibilities:

- Device designer – from idea to prototype
- Wiki article writer – Hardware overview and Device design

2017

ASME Taiwan SPDC

It is a robotic competition.
Subject : Robot Football: Goooaaaalll !!!!!!

Responsibilities:
- Machine designer – idea and control development

2018

BraunPrice

Subject : Design For What Matters

It is an innovation competition that can be virtual or physical, scientific or technical, or that changes our behavior for the better. Our group focus on global problem -- food wasted. We want to develop a network about the household food management and food sharing.

Responsibilities:
- Article writer – idea development and poster design

Research

2017 - 2018

Simulation of covering vamp to human foot

Using 3D scanner and Computer-aided engineering (CAE) software to analyze its load conditions and try to define physical parameter of "good coving" for further application.

Responsibilities:
- Stretching test
- CAE simulation setting and analysis
- Using strain gauge sensor

Project

2018

Writing machine

Using Computer-aided design (CAD) software for designing, traditional machining tools for machining and Arduino for controlling to make a writing machine.

Responsibilities:
- Machine Designer – from idea to prototype , control development and coding
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2018

Indoor Tracking between Quadcopter and Car

Our team assembling a quadcopter and a car. We want to develop a method dealing with the situation that the quadcopter can drop a ball to the car at indoor environment accurately

Responsibilities:
- Image processing and visual recognition

Skills

Programming Language: Visual Basic, Python, C/C++, Matlab
Software, Middleware, and Libraries: Solidworks, Blender, Abaqus, Ansys Classic, Unity, Robot Operating System (ROS), Docker, OpenCV
Evaluation Board : Arduino, Raspberry Pi 3

END