

Cheung Man Loc, Leo

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LeoCheung0804

Skills

Softwares | MATLAB, Simulink, Python, C++, Arduino, ROS, PyTouch, TensorFlow

Prototyping | AutoCAD, SolidWorks, 3D printer operation, Sheet metal fabrication, Topology design

Robotic | LiDAR, Motors, Encoders, 5G modules, Kinematics and Dynamics, PID Controls, I2C

Languages | Cantonese (Native), Mandarin (Fluent), English (Fluent, IELTS 7.0)

Work Experience

7/2023 - Current

C3 Construction Robotics

Hong Kong

Mechanical Engineer

Robo-Tapper Facade Inspection Robot :

- ❖ Led the design and development of mobile autonomous robot for AI-based façade inspections
- ❖ Passed field-testing stage and completed over 5 commercial Façade Inspections within one year, Generated over 1.5 million HKD in revenue
- ❖ Conducted Optimisation for the overall structure, reduced weight and enhancing the system's stability
- ❖ Designed layouts and manufactured the Electric and Control boxes for the robot
- ❖ Developed Sockets and API for UI, robot navigation and signal processing with existing system
- ❖ Integrated Laser sensors, IMU, LIDAR and Computer Vision for navigation and crack detection

Autonomous Wall Spraying Robot :

- ❖ Led a MSc Student Project on autonomous Spraying Robot
- ❖ Consult for its structure design and improved 4 bar linkage mechanical design
- ❖ Integrated AGV, IMU, Linear rail and motorise sprayer with ROS for automatic wall painting

2/2021 - 10/2022

Roborn Technology Limited

Hong Kong

Project Engineer

kNOw Touch Touch-less lift button sensor bar :

- ❖ Designed and developed an add-on virtual lift button that enables touch-less operation of elevators
- ❖ Installed over 1200 units across various buildings in Hong Kong within a year, including Hong Kong International Airport and Pacific Place, Generated over 4 million HKD in revenue
- ❖ Coordinated with suppliers on the selection and procurement of mechanical design, materials and microprocessors
- ❖ Troubleshoot and resolved issues related to manufacturing, installation, and software functionality
- ❖ Conducted quality inspections and performance evaluations for over 150 deployment processes

Robotics Research & Development work :

- ❖ Design mechanical structure and electrical layout for Exoskeleton control device and Humanoid robot
- ❖ Implemented haptic feedback functionality, reducing system vibration and enhancing overall motion performance
- ❖ Developed software for 48V High torque BLDC controls and Wireless communications on Linux
- ❖ Maintenance of other robots including repairing 5G communication transmitters and LiDAR modules

9/2020 - 2/2021

The Hong Kong Polytechnic University

Hong Kong

Graduate Executive

Borderless Lab 365 - STEM laboratories project :

- ❖ Web based real-time remote laboratory setups for secondary school students
- ❖ Responsible for leading 4 undergraduate students on the projects
- ❖ Designed and built prototypes of various STEM experiments using SolidWorks and 3D printing
- ❖ Assisted software developments including programming on Raspberry Pi and Arduino control systems and creating livestream control interfaces website

6/2018 - 8/2018

Fablab

Valencia, Spain

Summer Internship

Microwave Heating System Project :

- ❖ Create prototype and molding of the system using SolidWorks and AutoCAD
- ❖ Perform tests on heating various compositions of concrete, cement and metal
- ❖ Responsible for liaising with suppliers for materials selection and transportation

Education

9/2022 - 6/2023

The Chinese University Of Hong Kong
MSc Mechanical And Automation Engineering

Hong Kong

MSc Project :

- ❖ Design and Analysis of Wireless Motorized Foot Controller for enhanced control of SuperLimb
- ❖ Build a Motorized Foot Controller with Haptic feedback and Trajectory assistance
- ❖ Built API for Foot Controller to control SuperLimb and Smart home devices interchangeably
- ❖ Quantitative experiments on foot motion and overall ergonomics; improved motion and control

Relevant modules :

- ❖ Robotics, Control & Industrial Automation, Computer Aided Design and Manufacturing
- ❖ Design for Additive Manufacturing, Precision Machine Design and Vibration Control

9/2016 - 7/2020

The Hong Kong Polytechnic University
BSc (Hons) Engineering Physics

Hong Kong

Relevant modules: Calculus and Linear Algebra, Mechanics, Material Science, Thermal Physics

Final year project: Effects on different LEDs as artificial lighting for Basil's growth

9/2013 - 6/2016

Itchen Six Form College
GCSE - A Level

United Kingdom

Professional Certificate

1/2024

HKSAR Civil Aviation Department
Registered SUA Remote Pilot

Hong Kong

1/2024

HKSAR Labour Department
Construction Industry Safety Training Certificate

Hong Kong

12/2023

IBM
Applied AI Professional Certificate

Online

4/2024

Harvard University
CS50's Introduction to Programming with Python

Online
