

The Essence of the Grey Region

Macau, China



Team Introduction

Problem

There are mainly two directions in our team. The first one is elderly caring, based on the rapid growth of older people around the world. This trend has caused more and more elderly to injure themselves because of the lack of caring. Our second aim is about restaurant service. As the COVID-19 outbreak, it is better for people to keep their distance. In order to reduce interactions between people, we decided to use our robot to replace certain waitress duties in the restaurant.

Solution

Our goal is to minimize the danger of the elderly and maximize convenience in a home environment. Our team uses C++ and python to code and achieve several functions. For example, smart follow me, manipulator control, posture detection, voice recognition, slam navigation, health code detection, etc. Moreover, we create a unique structure of the robot with 3D print objects. The combination of the above features allows the team to provide a safe and convenient environment at home and in restaurants.



Team Performance

High Spot

The most catchy high spot of our performance is our self-trained **fall detection model**. Using machine learning, we are able to detect if an elderly is in danger or not. Secondly, our robot can also interact with elderlies in multiple ways, voice recognition, waving detection, etc. Moreover, we could also use the manipulator equipped on the robot to assist elderly in their daily basis.



Team website

[Team Information]: ★Joshua Lei, Cristiano Afonso da Silva, Sebastien Sin, Thomas Leong

[Mentor Information]: Kinda, Kin Un Lam School teacher lamkinun@gmail.com