

Marine Guard: A Monitoring System by Using AI Image Detection & Submarine to Recognize

Description

Marine Guard: A Monitoring System We concluded that to solve or at least alleviate ocean pollution, the simplest and direct method is to clear the pollutants in the ocean. Therefore, we constructed a system named Marine Guard that consists of a submarine used for locating pollutants. There is a camera on the sub for recording the environment underwater. The system also includes a 3D printed smart buoy for receiving GPS signals and signals from the remote control of the submarine through an antenna. Also the core of the system, an AI that can recognize pollutants appeared in videos. The system works as follows, users control the submarine to record underwater and gain the video, then send the video and the GPS location from the smart buoy online for the AI to recognize the pollutant appeared. The AI will specify the location and the type of pollutant on a map. With this information, we can effectively locate the pollutants in the ocean and clean them with ease.

我們制作了一款名為大海撈污的系統，系統包括了一部用以定位污染物的潛水艇，潛水艇上裝載了 GoPro 攝影機以拍攝水底的環境，一個浮標以 3D 打印制作的，浮標內含有 GPS 裝置及接收潛水艇遙控器信號的天線，以及整個系統的關鍵，用以辨認影片中出現過污染物的人工智能。整個系統的運作流程如下：用家以 DIY 潛水艇拍攝水底，取得影片，將影片及浮標提供的 GPS 坐標傳送至網上由 AI 進行辨認並在地圖上標籤出污染物的種類及位置。有了這些資料，我們能輕鬆地定位污染物所在的位置並進行清理。