Optical Flow Obstacle Avoidance Module

Learn how the infrared obstacle avoidance sensor works, how to connect the infrared obstacle avoidance sensor to Arduino, and how to program Arduino step-by-step.

This submission contains the implementation of optical flow algorithm for obstacle avoidance. Here, the drone to traverses through a Simulink® 3D Animation arena using optical flow ...

To address this challenge, a sense-and-avoid system capable of detecting any object in motion would be the perfect solution. By accurately tracking moving objects, the system would enable effective ...

The effectiveness of this novel event-based obstacle detection and avoidance method is substantiated through simulations, demonstrating its potential for enhancing UAV navigation safety ...

In this paper, we present an optical flow (OF)-based approach for obstacle avoidance in indoor environments with a payload constrained MAV. Our approach mainly utilizes Time-to-Contact (TTC) ...

Using a camera sensor and MATLAB Simulink"s optical flow algorithm, the obstacle avoidance system is shown in this work. For the purpose of identifying and following the motion of ...

Based on this, we designed a visual obstacle avoidance algorithm that can improve the obstacle avoidance performance of UAVs in different environments.

To address these limitations, this paper proposes a vision-based obstacle avoidance algorithm for MAVs using the optical flow in 3-D textured environments. The image obtained from a monocular camera is ...

Our real-world demonstrations indicate that optical flow is an effective representation for obstacle avoidance as it encodes valuable information about the vehicle motion and the surrounding ...

This solution adapts to a wide range of unforeseen objects, enhancing collision avoidance and flight path planning. Our research delves into optical flow techniques to determine their effectiveness in ...

Web: https://prospettivacasa.eu