KIT Happy Robot (Japan, Ishikawa)

Point of Development

Since assistive robots are often used in close proximity to people, they need to be designed to make a good impression.
The image of a "robot" varies from person to person, but if it is inorganic or half-heartedly pursues anthropomorphism, it will give a scary impression.

We devised a design for the head part, which is important in determining the robot's impression. The concept of the design is "cute".
We used warm colors and gave it a slightly smiling expression to make it look friendly. In the future, we would like to install a display in the eye area to provide emotional feedback.

Team Introduction

【Problem Presentation】

Awareness of the external world is of utmost importance for safe autonomous driving of a robot. Our robot used to navigate only with 2D-LiDAR sensors mounted on the dolly. However, this is not enough to avoid tall obstacles such as desks and chairs. This is because 2D-LiDAR alone can only recognize the legs of a desk or chair, not the top panel.

【Solution】

We solved the problem by using the RGB-D camera mounted on the head part. By using the point cloud data from the RGB-D camera, we were able to recognize tall obstacles and achieve safer autonomous driving.

Team Member

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