

【 1 】 Eyes for Life Assistant Robot "Mr.Secure" by Tokyo University IRT Institute / FUJITSU Laboratory



Catalyst for Installation

- Very wide eyesight was required without moving the head of robot
- A camera of very small size was required for installing in the head of 40cm high robot.
- Not willing to develop special software to unwrap distorted images from a fish-eye lens.

Installed condition of 360 degree camera

- Embedded in the head of 40cm high robot at its both eyes position.
- Installation does not affect the aesthetic design of robot.



Example of View image :

- The whole 180 degree view in front of the robot (sub circle image) is allocated at the upper left and some zoom-in (telescopic) images are indicated simultaneously.



Effect of Installation

- Since the robot can catch all of its front view without moving its head, any mechanism to move its head and any complicated image processing are not required, **resulting in simplifying the development of the control software.**
- Since the camera is small, **the robot could be small**, too.
- **Pre-installed dewarping software was utilized.**

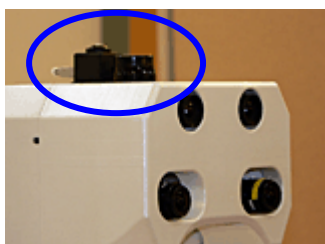
It is announced that this robot will be distributed all of homes in Japan by 2025.

【 2 】 Eyes for Home Assistant Robot by Tokyo University IRT Institute / TOYOTA etc.



Catalyst for Installation

- Always possible to catch whole around view without moving the head of robot.
- Possible to search the all around condition at real time.
- A small size was required.



Function of Robot :

- 1) A function to recognize the circumstances such as furniture, tools, washed clothes etc...by combining images from a laser range finder and a stereo camera.
- 2) A function to create actions based on the 3 dimension geometric model.
- 3) A function to judge the pass/fail of work done by itself by visual perception and re-do the work by fusing together with other operations.