

RZ/V AI Apps

PHYSICAL CONDITION MONITOR

Falling while standing is one of the major accidents that occur with elderly people causing severe injuries. Therefore, fall detection systems are becoming increasingly important at senior living facilities, hospitals and in family residences.

Vision AI-enabled fall detection systems examine human movement and perform activity recognition to detect falling events with video camera inputs.

Features

- Falling down or crouching motion can be detected
- Can be used free of charge for both prototyping and mass production as it is composed entirely of open source software

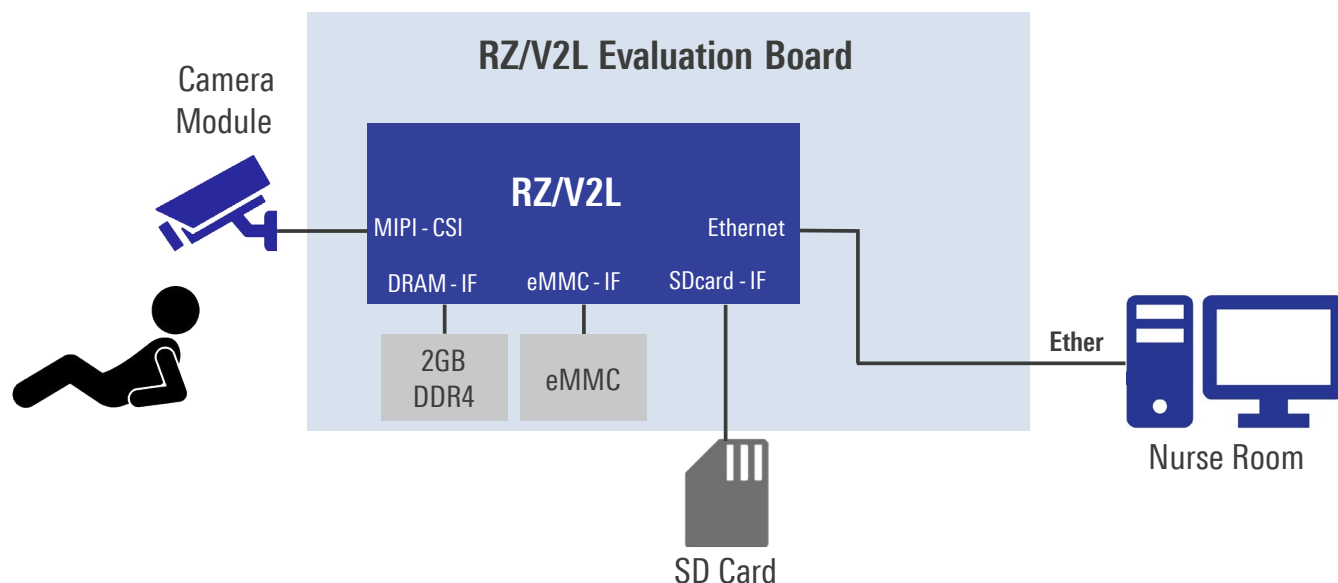
Benefits

- Detects when patients fall even if hospital staff or family members are not present
- The detection position can be varied to be applied to adults and children

Applications

- Healthcare
- Smart City

Block Diagram



PHYSICAL CONDITION MONITOR

Software

Elderly fall detection sample application that detects when a human head and shoulders cross a horizontal line set by the user. The application uses a deep learning-based object detector, tinyYoloV2, to detect a human and the HRNet model to detect the keypoints of the human body.

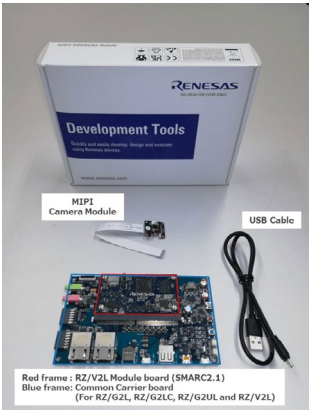
	Official Paper	Training Dataset
Tiny YOLOv2	YOLO9000: Better, Faster, Stronger	PASCAL VOC
HRNet	Deep High-Resolution Representation Learning for Visual Recognition	COCO

Demonstration Image



Tools & Support

- RZ/V2L Evaluation Board Kit



Ordering Information

This solution can be downloaded free of charge from Git Hub at [Physical Condition Monitor](https://github.com/renesas-rz/rzv_ai_sdk/).

For more details, please visit: renesas-rz.github.io/rzv_ai_sdk/