

ABSTRACT

Like humanoid, camera can be designed as eye on robot. With this eye, robot more easily "watch" its environment like humanoid. In order to detect object that caught by camera, robot needs an image processing based on DSP (Digital Signal Processor) processor. The writer use Personal Computer (PC) as the DSP Processor, so that there is a new terminology, Computer Vision.

Robot detect object by its visual sense (camera), then the image of the object supplied to PC by camera receiver in order to interpret it, so that robot understand what the object it is. The result of this interpretation is used to take over the decision. In this final project, the result of interpretation is used to find a fire, estimate the distance from robot, calculate the coordinate where the fire it is, and instruct robot to extinguish the fire.

The system which have been implemented in this final project, have worked better and enough rely on especially on its image processor. Image processor can detect fire on various condition, like brightness, high of the fire, coordinate, distance up to 400 cm (candles), and use different camera. Another part of the system still needs completion, especially on its model equipment. Mechanic of this part are made plastical, so that it less strong to sustain 2 DC motors with gearbox, driver, serial interface, and control.

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