

ABSTRACT

Garbage is an item that is produced from human activities and other living things that are no longer used. Garbage will become an environmental problem if not managed this properly. The large activity from Telkom University students means that most students throw garbage inappropriately when they are on the campus. Because of this, there was still a lot of garbage can be found while in the seating area and parking areas. This garbage problem can make the campus environment very uncomfortable, due to lack of trash cans in areas that are rarely traverse by people. Therefore, there are many technological tools that can help to detect garbage which one of this is machine learning. Machine learning is artificial intelligence that helps humans to make a system and one of them is an object detection system. By using machine learning in an object detection system, the campus can check garbage that is thrown away carelessly. In this final project, a system will be built that can detect objects in the form of garbage through a camera using an experimental based method. As for the systems and tools used, Yolov5 as the model of the system and Raspberry Pi as the main computer. The results obtained from object detection system are to help the campus detecting garbage that are thrown carelessly in Telkom University campus area.

Keywords: Object Detection, Raspberry Pi, YOLOV5, Machine Learning