

## ABSTRACT

Agriculture is a sector with a big role for the Indonesian economy. The aim of increasing productivity in agriculture in its application encounters many problems, one of the common problems that occur in various types of rice plants is the sparrow pest. The method used by farmers to deal with pest problems still uses the manual method, namely by using a scarecrow placed in the middle of the field or by going directly into the field. The world is now in a digital era where the field of technology has penetrated in all aspects of life and one of them is computer vision.

In this final project, a computer vision-based bird repellent system with Jetson Nano and Arduino UNO has been developed. This system works by detecting sparrow pests that are taken in real time with the camera, when the system detects the tool turns on the buzzer and servo tied with a rope to repel the sparrow pests. The system used includes a camera module, Jetson Nano, Arduino UNO, servo, buzzer and rope.

The results of testing the performance of the tool can run as planned. In camera testing, the ideal distance is less than 30 meters for sunny weather and less than 20 meters for cloudy weather, the highest FPS obtained is 18 FPS, the use of 1.4 Gib of RAM from the total maximum capacity of 1.9 Gib of RAM, and the ideal light intensity is at a brightness level below 1.7.

Key words : Computer vision, Jetson Nano, Pests of sparrows