

ABSTRACT

Kites stuck in the power grid are often the cause of power outages, especially in West Kalimantan. There were 426 power outages triggered by kite cables in 2018, 219 cases in 2019 and 297 cases in 2020. PLN's handling of finding the location of kites stuck in the electricity network is still not efficient enough and takes a long time.

Knowing the position of the stuck kite quickly and precisely using a drone that can detect the kite will speed up handling time. The images captured by the camera will be processed using the YOLO object detection method to detect kites. When a kite is detected, the system will instantly save the drone's position (latitude and longitude) and altitude into the database.

The result of this final project is a drone that can detect kites with the distance between the drone and the kite being 10 meters and 12 meters at speeds of 150 cm/s, 350 cm/s and 500 cm/s. The best kite detection accuracy is 88.33% when the drone flies at a speed of 150 cm/s with a distance between the drone and the kite of 10 meters.

Keywords: *Kites, Power Grid, UAV, Object Detection, YOLO.*