

WHAT IS ASO?

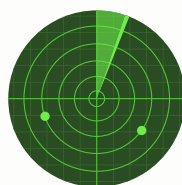
ASO is an AI-assisted fire and smoke camera surveillance to help in the fight against wildfires and other fire-related crises.

It produces real-time and accurate predictions with 98.29% precision, 92.00% recall, and an F1-score of 95.03% (*based on 1000 samples)

SIGNIFICANCE



sustainable method for early detection of fire and smoke



allows surveillance from long distances and remote areas

COMPONENTS & FUNCTIONALITY

RASPBERRY PI 3B+
provides automation and computational power for predicting images



RASPBERRY PI CAMERA V2
allows pictures to be taken



SERVO MOTOR
reorients the camera



LORA-SX1272
transmits the predictions over long distances



ARDUINO NANO
operates the LORA module



HOW IT WORKS

1

ASO takes pictures of its deployed location by rotating continuously

2

when the neural network detects fire or smoke in the pictures, an alert is sent to the app

3

the app alerts and displays to the user the location, date, time and type of detection