

## **Abstrack**

Traffic lights in Indonesia are often a problem because of the density of vehicles at crossroads. This density also inhibits emergency vehicles such as ambulances that will cross the lane. A traffic light system that still uses a timer, has not been able to overcome the density of vehicles in all lanes. For this reason, the writer designed a smart traffic system based on vehicle density based on Fuzzy Logic and emergencies using Mic AVR sound sensors.

This system works by using a infrared sensors to detect the density of vehicles at crossroads and Mic AVR sound sensors for vehicles with siren such as ambulances.

This study aims to overcome the density of vehicles and emergencies at traffic light intersections by utilizing a smart traffic system based on Fuzzy Logic to regulate smooth traffic.

The test results obtained that the fuzzy logic algorithm method can be used to regulate the density of vehicles and vehicles with siren as the main priority vehicle in the traffic intersection can be applied to the traffic light intersection prototype.

**Key Words :** Fuzzy Logic, Traffic lights