**Smart Traffic System to Reduce Ambulance Delays**

**Abstract :**

Ambulances often face delays at traffic signals due to heavy traffic and lack of efficient traffic management, which can put patients' lives at risk. These delays occur because traditional traffic systems cannot identify ambulances or prioritize their movement. As a result, valuable time is lost during emergencies.

To solve this, a smart traffic system is proposed using cameras and machine learning. Cameras installed on both sides of the signal will monitor vehicles in real-time and detect ambulances using trained models. Once an ambulance is identified, the system will turn the signal green for that lane, ensuring a clear path for the ambulance.

The system uses cameras for video capture, Raspberry Pi or NVIDIA Jetson Nano for processing, and machine learning frameworks like TensorFlow or OpenCV for ambulance detection. It also integrates with traffic signal controllers for automatic signal switching and uses vehicle datasets to ensure accurate identification.