

Smart Helmet for Riders

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Abstract: Road accidents are one of the leading causes of death and serious injuries worldwide, especially among two-wheeler riders. According to recent studies, a large number of fatalities occur due to the non-usage of helmets, drunk driving, and delayed emergency response after accidents. These issues highlight the need for an intelligent safety system that can prevent accidents and provide immediate assistance when required.

The Smart Helmet for Riders is an advanced safety solution based on Internet of Things (IoT) technology. The system integrates multiple sensors such as helmet detection sensors, alcohol sensors, and impact detection sensors to ensure rider safety. It also incorporates GPS and GSM modules for real-time location tracking and emergency communication.

The system ensures that the bike starts only when the rider is wearing the helmet and is not under the influence of alcohol. In case of an accident, the helmet automatically detects the impact and sends an emergency alert message along with the rider's location to predefined contacts.

The implementation of this system demonstrates improved safety, accident prevention, and faster emergency response. The Smart Helmet is a reliable and efficient solution for enhancing road safety and reducing fatalities.

Keywords: Smart Helmet, IoT, Road Safety, Alcohol Detection, Accident Detection, GPS, GSM

