ABSTRACT

The IoT-Based Airbag Activation System integrated into a motorcycle jacket employs gyroscope sensors and Internet of Things (IoT) technology to enhance rider safety by detecting and mitigating the risk of accidents. By embedding gyroscope sensors within the jacket, the system continuously monitors the rider's movements and detects potentially hazardous situations, such as sudden acceleration, deceleration, or loss of balance. When an imminent collision or fall is detected, the system activates an airbag mechanism integrated into the jacket, providing instantaneous protection to the rider. Additionally, the system utilizes IoT connectivity to transmit real-time data to a cloud- based platform, enabling remote monitoring and analysis of rider behavior and accident statistics. This allows for proactive measures to be taken, such as alerting emergency services or notifying designated contacts in the event of an accident. Through its seamless integration of sensor technology and IoT connectivity, the system offers a comprehensive solution for improving rider safety on the road. By providing proactive protection against accidents and facilitating rapid response in emergency situations, the IoT-Based Airbag Activation System represents a significant advancement in motorcycle safety technology, demonstrating the potential of smart, connected devices to mitigate risks and enhance the safety of riders.