

(54) Title of the invention : AI-Based Emergency Response System Integrating NLP and Real-Time Image Processing

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(57) Abstract :
AI-Based Emergency Response System Integrating NLP and Real-Time Image Processing ABSTRACT An artificial intelligence-based emergency response system that incorporates natural language processing (NLP) and real-time image processing is the subject of the current invention. The purpose of this system is to improve emergency management and disaster response. The purpose of the system is to perform real-time detection, evaluation, and response to critical occurrences such as natural disasters, accidents, and security threats. It is designed to evaluate multimodal data, which includes textual, audio, and visual inputs. By utilizing sophisticated artificial intelligence algorithms, the system is able to automate the identification of incidents, validate data from a variety of sources, and dynamically assign resources based on the severity and urgency of the situation. Among its most important characteristics are its support for several languages, interoperability with cloud and edge computing, and capabilities for continuous learning, which have been shown to improve accuracy and flexibility. Compliance with legislation such as the General Data Protection Regulation (GDPR) and the Health Insurance Portability and Accountability Act (HIPAA) is ensured by ethical and privacy-compliant data management. This invention greatly improves situational awareness, decreases response times, and minimizes the impact of emergencies across a variety of domains. It does this by delivering a solution that is unified, scalable, and efficient.

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