Patent Search

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Inventor

Name	Address	Country	Nationa
Dr.Srinivasa Raju	Professor, CSE, Vishnu Institute of Technology, Bhimavaram, India	India	India
Preethi Bitra	Assistant Professor, CSE, Vishnu Institute of Technology, Bhimavaram, India	India	India
Konduboyena Lokesh Surya Prakash	Student, CSE, Vishnu Institute of Technology, Bhimavaram, India	India	India
R. Swamy	Student, CSE, Vishnu Institute of Technology, Bhimavaram, India	India	India
S. Ganga Pavan Reddy	Student, CSE, Vishnu Institute of Technology, Bhimavaram, India	India	India
V. Sai Ritwik	Student, CSE, Vishnu Institute of Technology, Bhimavaram, India	India	India
S. Siva Sai Ganesh	Student, CSE, Vishnu Institute of Technology, Bhimavaram, India	India	India
R. Anirudh Saketh	Student, CSE, Vishnu Institute of Technology, Bhimavaram, India	India	India

Applicant

Name	Address	Country	Nation
Vishnu Institute of Technology	Sri Vishnu Education Society, Kovvada Rd, Vishnupur, Kovvada, Andhra Pradesh 534202	India	India

Abstract:

This invention provides an autonomous multi-sensor accident assessment and insurance claim system integrating computer vision, ultrasonic depth sensing, OBD2 diagnc accelerometer–gyroscope impact analysis and GPS telemetry. The system employs a YOLO-based damage detection model, AI-driven severity classification, and fraud dete using metadata, timestamp, and sensor-data validation. A repair-cost estimation engine computes expected repair expenses from fused sensor inputs. AI agents generate structured claim documentation, verify insurer rules, and synchronize evidence, while an API module automatically submits the completed claim to insurer servers. The inv enables real-time accident detection, accurate internal and external damage assessment, fraud-resistant validation, and end-to-end automated claim filing, significantly re processing time and human intervention.

Complete Specification

Description:FIELD OF THE INVENTION

[001] The present invention relates to the field of automated accident detection, vehicle diagnostics, computer vision–based damage assessment, and autonomous insurance claim processing. More particularly, the invention pertains to a multi-sensor, AI-driven system that integrates camera-based object detection, ultrasonic depth sensing, on-board diagnostics (OBD2), accelerometer- and gyroscope-based impact analysis, GPS telemetry, and artificial intelligence agents to enable real-time classification of vehicular accidents, automated verification of accident authenticity, intelligent repair-cost estimation, and end-to-end automated filing of insurance claim without human intervention. The invention further relates to the use of AI-based fraud prevention mechanisms and automated documentation systems for enhancing accuracy, reliability, and efficiency in motor-insurance claim workflows.

BACKGROUND OF THE INVENTION

[002] Vehicle accident reporting and insurance claim processing have traditionally relied on manual, time-consuming, and error-prone procedures. In conventional syster accident assessment requires a physical inspection by surveyors, manual submission of photographic evidence, verification of policy details, and subsequent communication between the insured party, service centres, and insurance companies. Such processes introduce significant delays in claim settlement, create opportunit for human error, and increase the likelihood of fraudulent claims being submitted. Existing systems depend primarily on user-uploaded images or self-reported

View Application Status