

AI - Powered Urban Issue Reporting and Resolution System

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Abstract

This paper presents an intelligent Urban Complaint Reporting and Resolution System designed to help citizens report issues related to public infrastructure. The system focuses on detecting potholes and similar road defects using computer vision techniques, particularly Convolutional Neural Networks (CNNs), to identify potholes from images and assess their severity. Global Positioning System (GPS) integration enables accurate geolocation of reported issues, helping authorities identify and respond to problems more efficiently. The platform also includes a chatbot interface that assists users in submitting complaints and interacting with the system in a simple and accessible manner. A microservices-based architecture is used to improve system scalability and performance. By combining computer vision, geospatial technologies, and citizen-driven reporting, the proposed system aims to support faster issue reporting, improve road safety, and enable more efficient urban infrastructure management aligned with smart city initiatives.

Keywords

AI-driven road maintenance, Pothole detection, Convolutional Neural Networks, GPS-based localization.