Proposal for PashuScan: AI-Driven Stray Animal Carcass Detection and Removal System

1. Introduction

Waste management is a critical aspect of urban sustainability, yet the issue of dead and decaying stray animals often remains overlooked. The improper disposal of animal carcasses poses severe environmental and health risks. PashuScan is an AI-powered solution designed to detect, report, and facilitate the removal of deceased stray animals efficiently. By leveraging artificial intelligence, computer vision, and automation, PashuScan aims to revolutionize the waste management sector while promoting public awareness and community engagement.

2. Objectives

- To develop an AI-powered system that detects, reports, and ensures the timely removal of deceased stray animals.
- To automate the communication between citizens, municipal corporations, and response teams.
- To analyze data trends for proactive health risk management and hotspot identification.
- To raise awareness and encourage community participation in maintaining urban cleanliness.

3. Proposed Solution: PashuScan

3.1 Detection and Reporting

AI ChatBot – EcoBot:

- A conversational AI chatbot to take user inputs, including images of dead animals.
- Auto-tagging or manual tagging of locations using **Google Maps** and *A* algorithms*.
- Push notifications and real-time alerts to municipal corporations for immediate response.

Public Reporting:

- A user-friendly mobile application allowing citizens to report deceased stray animals.
- Options for users to upload images, provide descriptions, and manually or automatically tag locations.

Automated Detection:

- **Computer Vision Technology** to identify dead animals in urban areas using CCTV footage.
- Localized surveillance through shop and house-installed cameras in smaller towns.
- Highway and metro city detection via government-installed road cameras and traffic monitoring systems.

3.2 Data Analysis

Trend Analysis:

- AI-driven analysis of reported incidents to determine **hotspot locations**.

- Prediction models for high-risk zones, enabling proactive intervention.

Risk Assessment:

- Use of **Machine Learning and GIS Mapping** to assess potential health risks linked to decomposing animal carcasses.
- Identification of areas with high decomposition-related bacterial growth, helping in sanitation planning.

3.3 Response and Removal

Automated Dispatch System:

- AI-based dispatch of municipal waste teams based on location, severity, and urgency.
- Notifications to respective authorities for faster action.

Route Optimization:

- **AI-powered route optimization algorithms** to ensure the most efficient path for waste removal teams.
- Reducing fuel consumption, time, and labor costs.

3.4 Public Awareness and Education

Information Campaigns:

- AI-powered insights to **tailor awareness campaigns** based on incident data.
- Engagement of **NCC and NSS cadets** in cleanup drives and rallies.

Safety Protocols:

- Automated guidelines for sanitation workers regarding safe handling and bio-disposal.
- Recommendations based on health risk levels in different areas.

Educational Resources:

- Dedicated app section providing **YouTube links** for animal bio-disposal tutorials.
- Contact details of relevant municipal authorities.
- **Real-time tracking** of lodged incidents and municipal response activities.

4. Future Enhancements

- **Voice Recognition for Illiterate Users:** Integration of **Natural Language Processing (NLP)** to allow voice-based reporting.
- **Gamification Features:**
    - Users earn **tokens for lodging reports**, redeemable for discounts and incentives.

    - Encourages active participation in urban cleanliness initiatives.

5. Uniqueness and Innovation

- **AI-driven detection and automated reporting** reduce reliance on manual interventions.
- **Computer Vision-based monitoring**, a novel approach in urban animal waste management.
- **Integrated response and route optimization**, enhancing operational efficiency.
- **Community-driven engagement strategies**, fostering public participation.

6. Expected Impact

- **Improved Urban Cleanliness:** Faster detection and removal of animal carcasses reduce foul odors and contamination.
- **Reduced Health Hazards:** Lower risks of disease spread caused by decaying remains.
- **Efficiency in Waste Management:** AI-powered automation streamlines municipal operations, saving resources.
- **Public Awareness & Engagement:** Encourages responsible waste management behavior among citizens.

7. Conclusion

PashuScan presents a pioneering approach to managing deceased stray animals through AI and automation. By integrating detection, reporting, data analysis, response optimization, and public education, the system offers a holistic solution to an often-neglected urban challenge. With the potential to scale across cities, PashuScan can significantly contribute to sustainability, cleanliness, and public health.

Let's build a smarter, cleaner future—one scan at a time!