

A Systematic and Comparative Review for Identifying and Providing Solutions through AI for Skin Diseases of Stray Dogs

AANHP Perera#, DU Vidanagama

Department of Information Technology, Faculty of Computing General Sir John Kotelawala Defence University, Sri Lanka

Abstract. This research aims to develop an innovative solution using Artificial Intelligence (AI) technology to address the problem of stray dogs' skin diseases and suffering from starvation in Sri Lanka. The study will utilize Image Processing and Knowledge Engineering techniques to create a social media app that can quickly provide the necessary treatment for identified skin diseases, locate stray dogs and assist nearby vet clinics and pharmacies. The proposed solution aims to help animal lovers provide food, medicine, and other needs to stray dogs. The past research also proposed using Fuzzy C-mean techniques, Convolutional Neural Networks, and machine learning models to store and assist in identifying common dog diseases and using image processing techniques to identify skin diseases in stray dogs. The research surveyed people's willingness and methods for helping stray dogs, the results showed that 96.6% of people who were willing to help stray dogs observed were found to have diseases, with lack of proper treatment being the main reason, with the majority expressing interest in providing food and medicine. People had difficulty finding pharmacies and veterinarians to help treat stray dogs with skin diseases and many reported a lack of knowledge about dog medicine and difficulty identifying the specific skin disease. However, 100% of respondents expressed interest in an online social media platform for helping stray dogs. Overall, this research aims to contribute to the development of a more efficient and effective solution to improve the welfare of stray dogs in Sri Lanka and the world.

Keywords: *Artificial Intelligence, Image Processing, Knowledge Engineering, Dogs' Skin Diseases*