Pet4Care: Identifying the Techniques Used to Find and Track Lost Pets and Proposing the Most Precise Application

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Abstract. In Sri Lanka, the number of missing pets is rising steadily these days. Pet owners are looking for a remedy as a result. Numerous tracking tools and pet software are available. However, Sri Lanka uses incredibly little of them. With the advancement of technology, today biometrics are used as an identification method. Both the cats and dogs had distinctive nose patterns that resembled human fingerprints. Therefore, this nose print could be used to find lost cats and dogs. This study is about identifying and studying existing applications and the technologies based on which they implement them and, with the knowledge gained, proposing a solution application for finding and tracking pets. The proposed solution, Pet4Care, is based on You Only Look Once (YOLO), Scale-Invariant Feature Transform (SIFT), Approximate Nearest Neighbour (ANN), and the Google API. The YOLO algorithm and SIFT algorithm are used to extract an image's unique vital points and descriptors. These unique descriptors, along with the dog's information, are saved in the database for future matching. The matching is done with the Annoy (Ap). The Google Maps API is used to track the location of the pets.