

ABSTRACT

Cats are among the most commonly kept pets by Indonesians. Owning a cat provides various benefits for the owner, as cats are intelligent and entertaining animals that offer emotional support to their caretakers. However, due to the nature of domesticated cats that require consistent care, including regular feeding, many owners who are busy outside the home face difficulties in maintaining their pets' feeding routines.

Smart Pet Feeder is an Internet of Things-based solution designed to provide food automatically, on a schedule, and controllable remotely via a mobile application. This system is equipped with the ability to identify cat breeds, ensuring that only specific cats are allowed to access the feeder, thereby reducing the risk of contamination by other animals. Additionally, the device offers real-time monitoring through a camera, allowing users to check the condition of their cat's surroundings remotely.

Although the solution meets the primary functional requirements, several limitations were identified. Smart Pet Feeder requires a stable internet connection, especially for the live camera feature on the monitoring page. The distance sensor occasionally provides inaccurate readings due to uneven food surfaces. The spiral mechanism responsible for dispensing food may also become jammed, hindering the feeding process. Furthermore, the deep learning model struggles to accurately identify cat breeds in low-light conditions. Therefore, future developments are expected to enhance the system's performance to ensure more reliable operation.

Keywords: Application, Deep Learning, Internet of Things, Cat, Smart Pet Feeder