

ABSTRACT

One of the animals used for research trials is the hamster. Since hamsters are highly susceptible to disease, doctors must ensure the health condition of the hamsters. Currently, health assessment is done in person through a visit to the veterinarian. The veterinarian monitors the hamster's behavior, temperature, and physique. The purpose of this study is to create a computer vision system that can detect the health of hamsters in real time using a camera. This system will be developed using Python. Additionally, the purpose of this study is to assist veterinarians in monitoring hamster health, identifying healthy hamsters, and providing early information about hamster health problems. The goal is to reduce the spread of disease to other hamsters and reduce physical contact with the animal. To accurately identify and classify healthy hamsters, the research methodology utilized deep learning techniques and the YOLOv8 algorithm. A total of 9.445 datasets were used, with 4.601 healthy hamster datasets and 4.844 sick hamster datasets. The performance of the system was tested using animal datasets on hamsters. This trial involves healthy and sick hamsters to obtain fast and accurate information about the health condition of hamsters, which allows for early detection of disease symptoms. The results show that the system can accurately identify the health status of hamsters with a confidence between 85% and 89% in less than 60 seconds.

Keywords: Computer Vision, Hamster, Health Detection, Real-Time, YOLOv8