ABSTRACT

Mice body measurements, especially length and width, are essential in biomedical research to monitor the growth, health and response of mice to various experiments. However, manual measurement techniques using rulers or calipers often cause stress to the animals and increase the risk of injury to both mice and researchers. Therefore, a more efficient and safer solution is needed. This research proposes the development of a mice dimension measurement system based on HSV (Hue, Saturation, Value) algorithm implemented with Computer Vision technology using OpenCV library and Python programming language. The HSV algorithm was chosen because of its ability to accurately detect color variations, enabling automatic detection and measurement of mice dimensions from digital images. The system is designed to measure the dimensions of mice non-invasively, thereby reducing the risk of stress and injury to the animals. In addition, the system is expected to measure the dimensions of mice with an accuracy rate of 80% - 100% without having to make physical contact with the mice being measured.

Keywords: HSV, Mice Dimension Measurement, Digital Images