

ABSTRACT

The demand for chicken meat consumption in Indonesia continues to increase, prompting some vendors to sell non-fresh meat to gain higher profits. Selling non-fresh chicken meat poses health risks to consumers. This study aims to develop a classification system using Artificial Intelligence (AI) technology and the K-Nearest Neighbors (KNN) algorithm to identify the freshness level of chicken meat. The dataset used consists of 1082 data points, divided into training data (868) and validation data (106), with a nearly balanced distribution between fresh and spoiled meat. Testing was conducted with variations in the value of k from 1 to 21. The testing results show that larger values of k provide higher and more stable accuracy. The highest accuracy of 88.88% was achieved at $k=21$, while the lowest accuracy of 82.40% occurred at $k=1$ due to potential overfitting. The highest precision of 85.18% was achieved at $k=2$, while the highest recall of 100% was achieved at $k=21$, demonstrating the system's ability to consistently and effectively detect positive samples. With these results, this classification system has been successfully implemented and can be used as a tool to detect the freshness of chicken meat, thereby supporting food safety for consumers.

Keywords : AI, Chicken, KNN, Accuracy