ABSTRACT

CLASSIFICATION OF DAIRY WOMEN'S BREAST MILK FOR DETERMINING CONSUMPTION FEASIBILITY USING CONVOLUTIONAL NEURAL NETWORK ALGORITHM

Oleh

Naura Safadila

18103114

ABSTRACT

Breast milk is very important because it is the main source of nutrition and nutrients that affect the growth and development of babies, especially in the first 6 months after birth. It is found that most breastfeeding mothers often express breast milk, to be given at a later time. Expired breast milk is not suitable for consumption by infants because its nutritional content is reduced or even lost. The existing problem related to ASIP is the difficulty experienced by breastfeeding mothers in determining the feasibility of ASIP after it has been stored, which results in a lot of eligible ASIP being wasted. Based on the problems found, in this research, ASIP classification is carried out to determine ASIP that is suitable and not suitable for consumption by creating a classification model applying the CNN (Convolutional Neural Network) algorithm by applying the Xception trained model as a pre-trained model used for transfer learning. The research data uses ASIP images as training and testing data. The ASIP images were obtained manually by directly photographing the ASIP at a set distance, brightness, and time interval. The ASIP images used were 18 decent category images and 24 unfit category images, then augmented so that the number of decent category images was 1750 and the number of unfit category images was 2332. The eligibility of ASIP is determined based on the length of storage time at room temperature, ASIP is suitable for consumption in the interval 0-4 hours of storage time at room temperature. The classification generated from Xception architecture has an accuracy rate of 95.59%.

Keywords : ASIP, Convolutional neural network, Klasifikasi, Xception.