

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pembuatan sistem pakar deteksi penyakit mulut dan kuku (PMK) pada sapi berbasis citra menggunakan metode algoritma yolov5. Metode ini di gunakan untuk mendeteksi objek secara real time. Langkah-langkah sebelum ke proses training yolov5 yang dikuakan dalam penelitian ini terlebih dahulu yaitu ,pengumpulan dataset,pembagian dataset dan pelabelan dataset. Dalam pelabelan dataset akan dibagi tiga class yaitu train set, validation set dan testing set yang akan di gunakan dalam proses training dataset. Dalam proses training dataset peneliti mendapatkan hasil training dengan akurasi yang didapatkan setiap class yaitu mulut terdeteksi PMK 0,74, kuku terdeteksi PMK 0,54,Mulut terdeteksi sehat 0,94, dan kuku terdeteksi sehat 0,65. Yang menunjukkan bahwa metode yolov5 dapat menghasilkan akurasi deteksi yang berbeda-beda di setiap class. Dan untuk mendeteksi objek secara real time menggunakan kamera open cv yang dijalankan di visual studio code yang memudahkan dalam mendeteksi penyakit mulut dan kuku pada sapi berbasis citra.

Kata kunci:,algoritma Yolov5, citra, sistem pakar, open CV ,PMK sapi

Abstract

This study aims to determine the creation of an image-based expert system for detecting foot and mouth disease in cattle using the Yolov5 algorithm method. This method is used to detect objects in real time. The steps prior to the Yolov5 training process that were discussed in this study first were dataset collection, dataset distribution and dataset labeling. In labeling the dataset, it will be divided into three classes, namely the train set, validation set and testing set which will be used in the dataset training process. In the dataset training process, the researchers obtained training results with accuracy obtained for each class, namely the mouth was detected with PMK 0.74, the nails were detected with PMK 0.54, the mouth was detected as healthy 0.94, and the nails were detected as healthy 0.65. Which shows that the yolov5 method can produce different detection accuracy in each class. And to detect objects in real time using an open cv camera that runs on visual studio code which makes it easier to detect foot and mouth disease in cattle based on imagery.

Keywords: *Yolov5 algorithm, image, expert system, open CV, cow FMD*