

ABSTRAK

Perkembangan teknologi khususnya dibidang komputasi dan sub bidangnya semakin hari semakin masif. Permasalahan petani dalam mendeteksi jenis penyakit pada tanaman cengkeh dan kurangnya inovasi dalam memanfaatkan perkembangan teknologi. Pembuatan sistem mempermudah petani dalam mendeteksi penyakit pada daun cengkeh. Masalah penelitian ini yaitu Bagaimana implementasi YOLOv8 dalam mendeteksi hama pada daun cengkeh. Tujuan penelitian ini yaitu Untuk mengetahui implementasi YOLOv8 dalam mendeteksi penyakit pada daun cengkeh. Lokasi penelitian ini Di Desa Rallaya Balang Butung, Kab. Kepulauan Selayar. Perancangan sistem yang digunakan seperti pengambilan dataset, pengolahan gambar, pelabelan dataset, pembagian dataset, training dataset, dan deteksi. Adapun pengujian sistem yang dilakukan menggunakan confusion matriks. Peneliti menarik kesimpulan Pendeteksian menggunakan algoritma Yolov8 dapat berkerja dengan baik. Karena sistem dapat mendeteksi gambar dengan berbagai jenis daun, mulai dari daun sehat, cacar, dan bukan daun cengkeh. Sistem dikatakan baik karena hasil training googlecolab mencapai akurasi terbaik 99,3 %. Peneliti mempunyai beberapa saran kepada peneliti selanjutnya, terkait jumlah epoch dan pembagian dataset yang kurang tepat akan sangat mempengaruhi hasil akurasi dari sistem.

Kata Kunci: Daun Cengkeh, Deteksi, Yolov8

ABSTRACT

Technological developments, especially in the field of computing and its sub-sectors, are becoming more massive day by day. Farmers' problems are in detecting types of disease in clove plants and the lack of innovation in utilizing technological developments. Creating a system makes it easier for farmers to detect diseases on clove leaves. The problem of this research is how to implement YOLOv8 in detecting pests on clove leaves. The aim of this research is to determine the implementation of YOLOv8 in detecting diseases on clove leaves. The location of this research is Rallaya Balang Butung Village, Kab. Selayar Islands. The system design used includes dataset retrieval, image processing, dataset labeling, dataset division, dataset training, and detection. Meanwhile, system testing is carried out using a confusion matrix. Researchers draw the conclusion that detection using the Yolov8 algorithm can work well. Because the system can detect images with various types of leaves, starting from healthy leaves, smallpox, and not clove leaves. The system is said to be good because the GoogleColab training results achieved the best accuracy of 99.3%. The researcher has several suggestions for future researchers, regarding the number of epochs and inaccurate division of the dataset which will greatly affect the accuracy of the system.

Keywords: *Clove Leaves, Detection, Yolov8*