

Research and application of the YOLOv12 model combined with Ensemble Learning technique for disease detection on custard apple trees

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Abstract: This topic aims to research and deploy a disease detection system on custard apple trees using the YOLOv12 model combined with Ensemble Learning. In the context of agriculture increasingly relying on technology, early detection of diseases on custard apple trees is an important issue to minimize losses caused by pests and diseases. The objective of the topic is to build a system that accurately identifies types of diseases from images by using the YOLOv12 model trained with Ensemble Learning. The research method applies a combination of machine learning theory and experimentation to optimize detection performance. It is expected that the system will have wide application potential in agriculture, helping to increase product yield and quality.

Keywords: YOLOv12, Ensemble Learning, Custard Apple Disease Detection, High-Tech Agriculture