Enhancing the feature extraction capability of the YOLOv12 model through an attention mechanism for tea plant disease detection.

Vu Tien Khai

Abstract: This topic focuses on improving the performance of the YOLOv12 model in the agricultural field through the application of an attention mechanism. The rationale for selecting this topic is based on the practical need for early disease detection on tea plants to minimize economic losses and protect the biological environment. The objective of the research is to build an accurate and rapid recognition system for disease signs on tea plants by combining theory with experimentation. The method uses an improved YOLOv12 model, incorporating an attention mechanism to enhance the ability to extract image features from raw data. The expected results will confirm the applicability and contribution of the topic in the development of advanced agricultural technology.

Keywords: YOLOv12, Attention Mechanism, Tea Plant Disease Detection