

Augmented Reality in Identification of Pests on Crops

Ms. Chandana KR¹, Ms. Chaithra Shree M², Ms. Deepthi B³, Ms. S P Preethi⁴, Ms. Sankalana CM⁵

Faculty, Department of Computer Science and Engineering¹
Students, Department of Computer Science and Engineering^{2,3,4,5}
S J C Institute of Technology, Chikkaballapura, India

Abstract: *The agriculture division can benefit from improved methods for identifying and managing pests to ensure a steady supply of safe and nutritious food. Traditional pest identification methods, which rely on the expertise of taxonomists to identify pests based on morphological features, can be time-consuming and require significant resources. To address this challenge, a new pest classification system has been developed that uses close-up image extraction and object recognition to identify pests in the IP102 dataset. This system achieved high classification rates of 91.5% and 90% for nine and 24 class pests, respectively, using a convolutional neural network (CNN) model. In addition to this classification system, an innovative application of Augmented Reality (AR) is being developed to assist farmers in pest identification and management. This system aims to help farmers distinguish between harmful and beneficial insects and provide recommendations for appropriate pesticides and treatments. By providing farmers with this information in real-time, the AR system can help improve crop yields and reduce the negative impacts of pests on the environment.*

Keywords: Deep learning, pest identification, deep learning, augmented reality, crop insect detection, machine learning