

## ABSTRACT

The agricultural sector in India faces numerous challenges, ranging from outdated farming techniques to imbalanced fertilizer usage. To address these issues and bolster agricultural productivity, a team has developed a revolutionary solution: the Crop Care Companion chatbot framework. Crop Care Companion is a cutting-edge tool designed to assist individuals, especially farmers, in effectively managing their crops and predicting their needs. By harnessing the power of deep learning algorithms, this chatbot revolutionizes the way plant diseases are detected and managed. One of the standout features of Crop Care Companion is its utilization of a deep learning algorithm specifically tailored for processing plant disease visual cortex-inspired images. These images are analysed in a grid pattern, allowing for precise detection of plant diseases using a vast dataset. This innovative approach not only enhances the accuracy of disease diagnosis but also expedites the process, enabling farmers to take proactive measures to protect their crops. These images undergo analysis in a grid layout, facilitating precise identification of plant diseases through an extensive dataset. This innovative methodology not only elevates the accuracy of disease diagnosis but also expedites the process, empowering farmers to adopt preemptive measures in safeguarding their crops. Furthermore, Crop Care Companion transcends conventional text-based interactions by integrating voice and image capture functionalities.