Problem Statement: Satellite Image-Based Crop Health Detection

Farmers often face challenges in checking the health of their crops, especially over large areas. Manually checking crops is slow, tiring, and not always accurate. To make this process faster and smarter, we can use satellite images that show how plants reflect light. A special formula called NDVI (Normalized Difference Vegetation Index) helps us understand how healthy the plants are by checking how much red and near-infrared light they reflect.

This project aims to use Satellite images of vegetation and train a model to find out whether crops are healthy, affected by rust, or suffering from some other stress. We have planned to use a deep learning model called CNN (Convolutional Neural Network) to do this classification.

The goal is to help farmers and agriculture experts get a quick and accurate idea of crop health using images from space.
This method can make farming more efficient, save time, and support better decision-making in agriculture.