

## **Background:**

The ratio of food demand overproduction is the main factor affecting the level of food security. The global population has been expanding rapidly for many years, standing at around 7.3 billion in 2016, due to a number of factors, such as advanced maternity and healthcare. However, the rise brings with it several challenges around global sustainability, including the need for more food. Agriculture contributes to 6.4% of the entire world's economic production. In at least nine countries of the world, agriculture is the dominant sector of the economy. Agriculture not only provides the fuel for billions of people but also employment opportunities for a large number of people. The agricultural industries are seeking innovative approaches for improving crop yielding because of unpredictable climatic changes, the rapid increase in population growth, and food security concerns. Thus, artificial intelligence in agriculture also called “Agriculture Intelligence” is progressively emerging as a part of the industry's technological revolution.

The spread of agricultural diseases that destroy all agricultural crops and lack of arable land are the most problem which faces our planet, today's so we try by our project to use modern solutions using internet and technologies to beat these problems and increasing the productivity of the crops and trying to help farmers and providing them with the necessary experience to identify diseases before they occur and giving them suggestions to ensure the best productivity. ML-driven image processing allows farmers to rely upon digital tools to recognize weed species and to determine which crops are healthy and which ones are infested with disease caused by fungi, bacteria, or viruses.

We focus on using machine learning algorithms and computer vision to build models which have the ability to detect diseases and give users the best solution to its problem and try also to connect experienced agricultural engineers with simple farmers which helps to decrease time and cost to anyone who needs the advice.