AI in Agriculture

Sarita Kanwar

August 2021

Factors such as climate change, population growth and food security concerns have propelled the industry into seeking more innovative approaches to protecting and improving crop yield. As a result, AI is steadily emerging as part of the industry's technological evolution.The most popular applications of AI in agriculture appear to fall into three major categories:

Agricultural Robots – Companies are developing and programming autonomous robots to handle essential agricultural tasks such as harvesting crops at a higher volume and faster pace than human laborers.

Crop and Soil Monitoring – Companies are leveraging computer vision and deep-learning algorithms to process data captured by drones and/or software-based technology to monitor crop and soil health.

Predictive Analytics – Machine learning models are being developed to track and predict various environmental impacts on crop yield such as weather changes.

Blue River Technology – Weed Control

The ability to control weeds is a top priority for farmers and an ongoing challenge as herbicide resistance becomes more commonplace.Blue River Technology has developed a robot called See Spray which reportedly leverages computer vision to monitor and precisely spray weeds on cotton plants.

Harvest CROO Robotics

Automation is also emerging in an effort to help address challenges in the labor force.It claims that its robot can harvest 8 acres in a single day and replace 30 human laborers.The farm claims that the robot spans "over six beds of plants" and carries "16 individual picking robots."

Crop and Soil Health Monitoring

PEAT – Machine Vision for Diagnosing Pests / Soil Defects

Deforestation and degradation of soil quality remain significant threats to food security and have a negative impact on the the economy.