

## **ABSTRACT**

### **ARTIFICIAL INTELLIGENCE IN AGRICULTURAL SECTOR**

Artificial Intelligence (AI) is revolutionizing the agricultural sector by offering innovative solutions to address challenges such as food security, resource optimization, and climate change. This seminar explores the transformative potential of AI in agriculture, focusing on its applications in precision farming, crop monitoring, pest control, irrigation management, and yield prediction.

AI-powered technologies, including machine learning, computer vision, and data analytics, enable farmers to make informed decisions by analyzing vast datasets collected through sensors, drones, and satellite imagery. These tools facilitate efficient resource allocation, reduce waste, and improve crop quality and productivity. Predictive analytics and AI-driven models also play a crucial role in forecasting weather patterns, detecting plant diseases, and managing supply chains.

The seminar highlights real-world implementations, such as autonomous farming equipment, AI-driven advisory platforms, and robotic harvesting systems. It also discusses challenges, including data privacy, accessibility for small-scale farmers, and the need for robust infrastructure.

By integrating AI into traditional agricultural practices, this seminar envisions a future where technology empowers farmers to achieve sustainable and resilient farming systems, ensuring food security for a growing global population.