

# Artificial Intelligence and Machine Learning

**Pushpak Magar, Mayuresh Pagar, Harshad Ahire, Priyanka Aher, Pradnyesh Kotkar**

Third Year of Computer Engineering, Department of Computer Engineering  
MET's Institute of Technology, Polytechnic, Bhujbal Knowledge City, Adgaon, Nashik

**Abstract:** *Artificial Intelligence (AI) is revolutionizing agriculture by addressing critical challenges such as increasing food demand, resource scarcity, and climate change. This paper explores AI's transformative role in modern farming, highlighting applications like precision agriculture, predictive analytics, robotics, and livestock monitoring. AI enables farmers to optimize resources, enhance crop yields, and implement sustainable practices through data-driven decision-making. While offering immense benefits, AI adoption faces hurdles such as high costs, limited accessibility in developing regions, and ethical concerns regarding data use. Despite these challenges, the integration of AI with technologies like IoT and big data paves the way for smart farming and global food security. This paper underscores AI's potential to shape the future of agriculture by fostering efficiency, sustainability, and innovation..*

**Keywords:** Artificial intelligence (AI)