

APPLICATION OF ARTIFICIAL INTELLIGENCE IN SMART AGRICULTURE

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Agriculture is facing increasing challenges due to population growth, climate change, resource scarcity, and labour shortages. Artificial Intelligence (AI) has emerged as a key enabler of smart agriculture by supporting automated, data-driven approaches for efficient farm management. AI systems analyze data collected from sensors, drones, satellites, and farm records to enhance productivity, optimize resource utilization, and promote environmental sustainability. This review examines major applications of AI in smart agriculture, including precision input management, crop health monitoring, pest and disease detection, intelligent irrigation, yield prediction, and agricultural automation. A qualitative review approach was adopted to analyze recent scholarly studies, highlighting both the potential benefits and the challenges associated with large-scale AI adoption in agriculture.
