# Abstract

The **AI-powered Smart Irrigation System** is an innovative solution designed to optimize water usage in agriculture by automating irrigation based on real-time environmental conditions and crop needs. This system leverages **Artificial Intelligence**, **IoT sensors**, and **predictive analytics** to determine the precise amount of water required for different areas of a field. By integrating soil moisture, temperature, humidity, and weather forecast data, the system ensures efficient irrigation, minimizes water wastage, and improves crop yield. The goal is to promote sustainable farming while reducing manual intervention and operational costs.