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(57) Abstract :
 Title: AI-Driven Adaptive Soil Moisture Prediction and Precision Irrigation System with Real-Time Weather Forecast Integration and Crop-Specific Growth Simulation. An AI assisted smart irrigation system with soil moisture prediction and adaptive irrigation control means is disclosed. Said system comprises of a Single Board Computer (SBC) communicatively coupled to soil moisture sensor processing module, weather data module configured to fetch real-time weather data from online API integrated into the Single Board Computer, wherein the moisture prediction module, also coupled to the single board computer, predicts the moisture content of the soil at any given time or duration using embedded pre-trained ML-models stored in the single board computer. Based on said prediction of moisture content, the single board computer determines whether and when to activate the water pump. FIG.1

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