

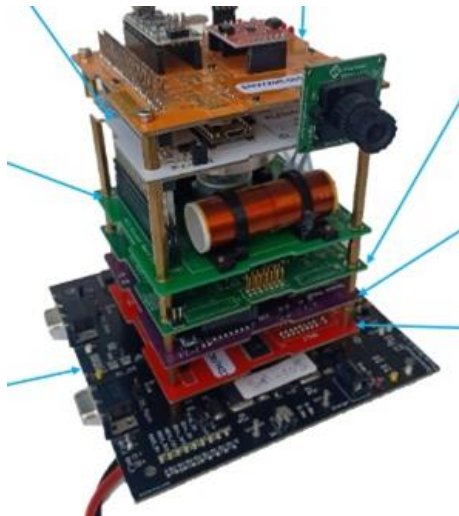
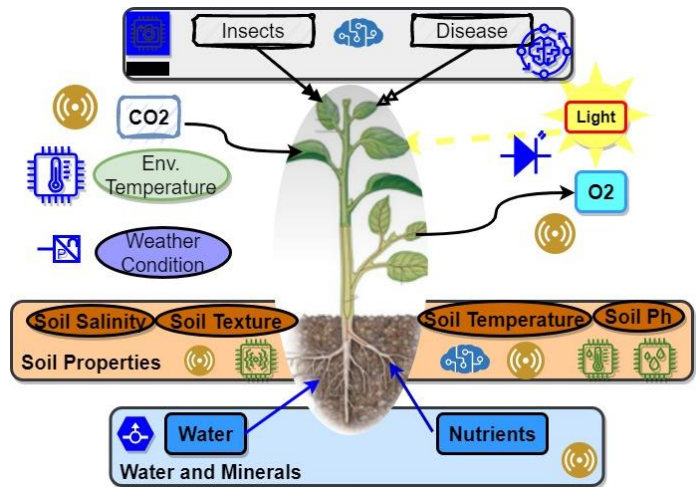
An Optimized Wireless Image Transmission for achieving a Semantic Wireless Communication System for Smart Agriculture Monitoring Purposes.

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Smart Monitoring of the agriculture process:

- **Monitoring soil status**
 (sensing soil texture, salinity, temperature, Humidity, and PH)
- **Monitoring Weather status**
 (Climate change initiative for smart agriculture includes sensing weather temperature, humidity, rain, Co2, light (UV index), dew, pressure, and wind)
- **Monitoring plant health**
 (observing the plant growth rate, suction diameter, leave, Yield, Insects, and infection)



The sensor elements should be connected to a sustainable cyber physical system. The most challenging element is the camera which observes the plant's health.

The wireless communication of the camera through sending streams or video streaming requires two important challenges:

- 1) Provide sustainable connectivity to the controller and the system elements.
- 2) Maintain a wise transmission to effectively achieve semantic wireless transmission.

