The Smart Agriculture System (Greeno)

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Agriculturalists face a challenge in efficiently growing plants in diverse environments due to human errors. We searched for an all-inclusive solution that's sustainable, time-efficient, and energy-saving. Our project addresses this challenge by developing an eco-friendly greenhouse that creates a full ecosystem for plant growth and enables better communication between farmers and their crops through remote system monitoring and management. We connected the greenhouse to software and the data are all connected to a cloud. Our low-cost, eco-friendly greenhouse technology uses materials like Polycarbonate and smart algorithms for power distribution. The software application we developed stores all data, including qualitative observations such as the growth rate of plants on the cloud, accessible worldwide. Renewable energy, like Solar cells, is used to provide power for the greenhouse. To determine the effect of our project on plant growth, we conducted three trials using three different plants. The data collected showed that plants inside the project area grew Wi-Fi twice as fast as those outside the project area, doubling in size. In regard to energy consumption, our greenhouse used much keeps power than traditional growing conditions. The project uses an affordable, eco-friendly, and solar-powered solution to enhance plant growth efficiency and communication between farmers and crops. It includes an AI-based application for global data storage and analysis, and the plants within the project area grew twice as fast as those outside. The ultimate goal is to achieve food security and sustainability.

Awards Won: