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Design and Development of a Prototype of Web Controlled TomatoPlucking Robot using IOT

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Abstract: *In agriculture, the integration of robotics and Internet of Things (IoT) technologies has revolutionized traditional farming practices, offering efficient solutions for tasks such as harvesting. This paper presents the design and development of a web- controlled Tomato Plucking Robot (TPR) utilizing IoT principles. The TPR consists of a robotic arm mounted on a rover platform, enhancing mobility and reach. A dedicated storage unit within the rover facilitates the collection of harvested tomatoes. The entire system is remotely operated via a web interface, enabling real-time control and monitoring from any location with internet connectivity. Additionally, an ESP32 cam module is integrated to provide live navigation views, aiding in precise maneuvering and tomato detection. This research contributes to the advancement of automated agricultural practices, offering a scalable and adaptable solution for tomato harvesting while showcasing the potential of IoT-enabled robotics in optimizing farm operations.*

Keywords: Agriculture, Tomato, Rover, Robot Arm, Gripper, Servo Motors, DC motors

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