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Infrared Radar Technology for Object Detection

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Abstract: *This paper presents the design and implementation of an Arduino-based infrared radar system for real-time object detection. The system utilizes an infrared sensor mounted on a servo motor to scan its surroundings and detect objects within a specified range. The data is processed using an Arduino microcontroller and visualized on a display unit through Processing software. The objective of this project is to develop a low-cost and efficient radar system capable of detecting unauthorized objects in a defined area. The system is designed to be scalable and can be integrated with advanced technologies such as machine learning for enhanced object classification. Experimental results demonstrate the effectiveness of the proposed system in detecting and tracking objects with high accuracy.*

Keywords: IR Sensor, Real-time Visualization, Graphical Interface, Arduino Uno, Ultrasonic Sensor

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