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Object Detection Machine Using Arduino

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Abstract: *Object detection is an essential aspect of security and automation solutions, allowing effective monitoring and obstacle sensing. This proposes the Object Detection Machine Using Arduino, an efficient and affordable system developed for detecting objects with maximum accuracy and faster response time. The system applies Arduino Uno, a sonar sensor, a breadboard, and jumper wires, programmed using Arduino IDE and Processing to sense objects in real time. The system suggested here works by sending ultrasonic waves and calculating the time taken for the echo to be received, thus enabling accurate distance measurement. With flawless accuracy and quick detection, this system is perfect for use in security surveillance, automatic obstacle detection, and industrial automation. In comparison to conventional vision-based detection systems, this methodology is more efficient during low light and less affected by visual obstructions. This project reflects a strong, scalable, and viable solution to real-world automation and security challenges.*

Keywords: Object Detection, Security System, Arduino Uno, Sonar Sensor, Real Time Monitoring

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