

## AUTOMATIC TAP CLOSER

### PROJECT DESCRIPTION:

This project uses an IR sensor and Arduino to control an automatic water tap. When a hand is detected, the Arduino activates a relay to turn ON the DC water pump. When the hand is removed, the relay turns OFF the pump automatically. This system helps save water and improve hygiene.

### PIN CONNECTION:

#### IR Sensor → Arduino

VCC → 5V

GND → GND

OUT → D2

#### Relay Module → Arduino

VCC → 5V

GND → GND

IN → D8

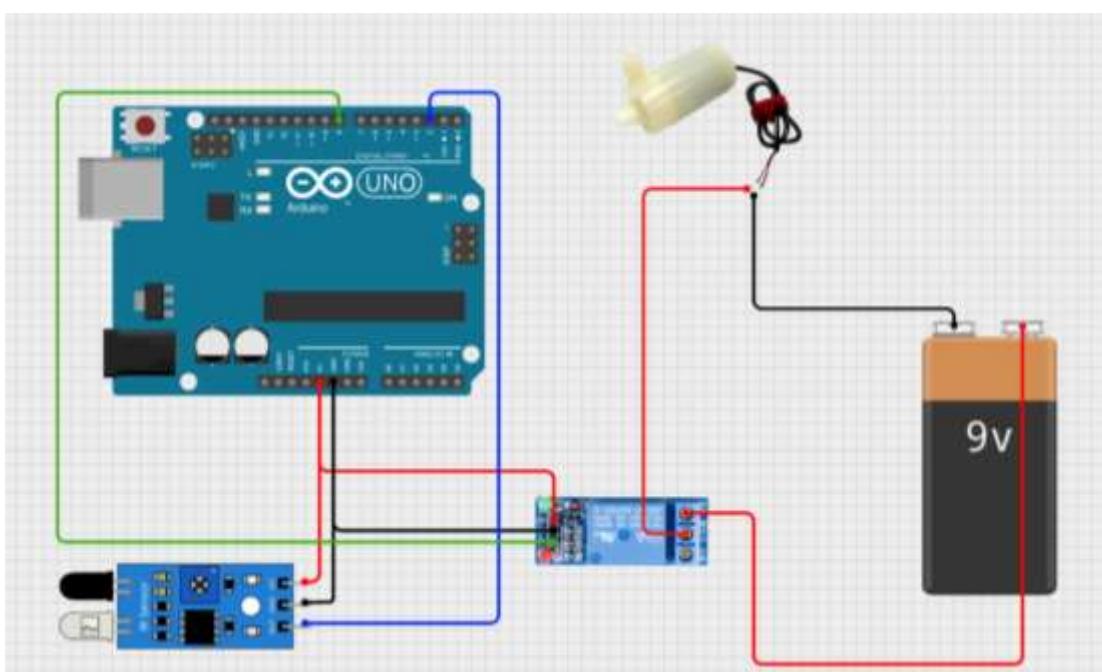
#### Relay → DC Pump

Power Supply + → COM

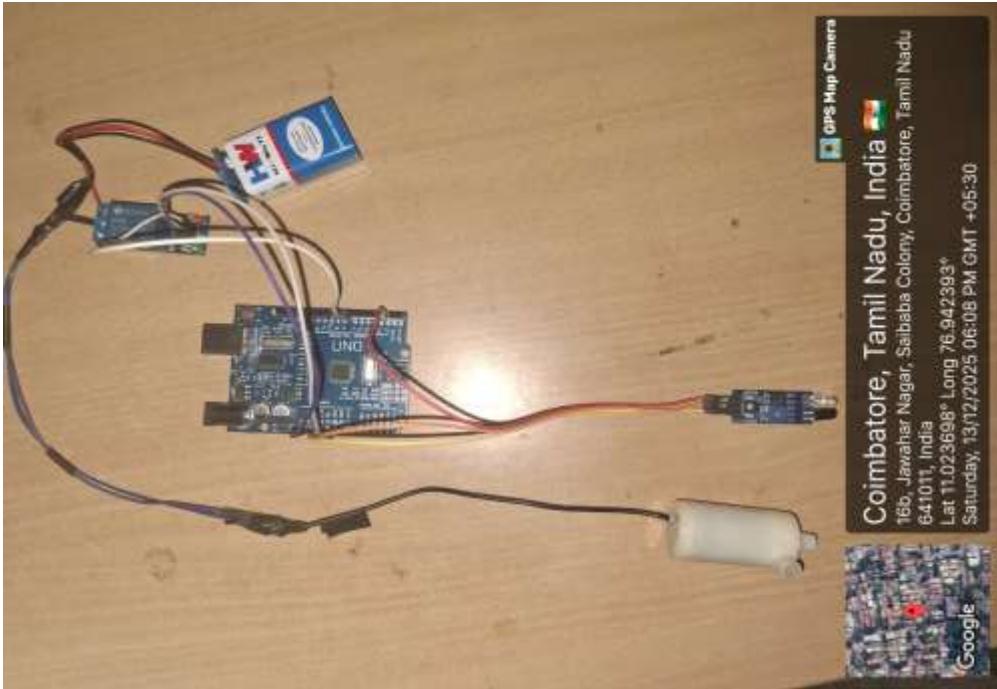
NO → Pump +

Pump - → Power Supply -

### CIRCUIT DIAGRAM



## PROJECT PHOTOS



## CODE

```
int ir = 2;      // IR sensor OUT pin
int relay = 8;   // Relay input pin

void setup() {
    pinMode(ir, INPUT);
    pinMode(relay, OUTPUT);
    digitalWrite(relay, HIGH); // Pump OFF initially
}

void loop() {

    int sensorValue = digitalRead(ir);

    if (sensorValue == LOW) {    // Hand detected
        digitalWrite(relay, LOW); // Pump ON
    } else {                    // No hand
        digitalWrite(relay, HIGH); // Pump OFF
    }
}
```