Circuit Connections

- **DHT11 (Temperature and Humidity Sensor)**:
    - **Pin 4**: Connect the **Data Pin** of the DHT11 sensor to **GPIO 4** (DHTPIN).
    - **VCC**: Connect to **3.3V** on ESP32.
    - **GND**: Connect to **GND** on ESP32.
- **Heater (Relay or Transistor)**:
    - **Pin 5**: Connect the **Relay** or **Transistor** control pin to **GPIO 5** (HEATER_PIN) for switching the heater on/off.
    - Make sure to connect the heater to the relay or transistor to handle the higher voltage.
- **Fan (Relay or Transistor)**:
    - **Pin 12**: Connect the **Relay** or **Transistor** control pin to **GPIO 12** (FAN_PIN) for switching the fan on/off.
- **LDR (Light-dependent Resistor)**:
    - **Pin 34**: Connect one terminal of the LDR to **GPIO 34** (LDR_PIN) and the other terminal to **GND** (use a pull-down resistor if needed).
- **PIR (Passive Infrared) Motion Sensor**:
    - **Pin 32**: Connect the **OUT** pin of the PIR sensor to **GPIO 32** (PIR_PIN) to detect motion.
    - **VCC**: Connect to **3.3V** on ESP32.
    - **GND**: Connect to **GND** on ESP32.
- **Light (Relay-controlled Light)**:
    - **Pin 2**: Connect the **Relay** or **Transistor** control pin to **GPIO 2** (LIGHT_PIN) for controlling the light.
    - Connect the light to the relay to control the AC or DC light.
- **Gas Sensor (MQ2 or similar)**:
    - **Pin 35**: Connect the **Analog Output (AO)** of the gas sensor to **GPIO 35** (AO_PIN) for detecting gas levels. This pin will read the gas concentration via an analog value.
- **Buzzer**:
    - **Pin 18**: Connect the **Buzzer** to **GPIO 18** (BUZZER_PIN) to sound an alarm when gas or fire is detected.

Circuit Diagram

- The **DHT11**, **PIR**, **LDR**, and **Gas Sensor** are connected to the **ESP32** pins as described.

- **Relay modules** are used to control the **Heater**, **Fan**, and **Light**. These modules are triggered by the ESP32 GPIO pins and should be powered separately if needed.
- Ensure all components are connected to the correct voltage (either 3.3V or 5V, depending on the component's specifications).
- Use **external power sources** for the heater, fan, and light if required, but make sure to interface them with the ESP32 through the relay.