# DETAILED PIN CONNECTIONS

**ARDUINO UNO PINOUT:**

Pin A4 (SDA) - I2C Data Line Pin A5 (SCL) - I2C Clock Line Pin 6 - Buzzer control

Pin 7 - Red LED (Apnea Alert)

Pin 8 - Yellow LED (Hypopnea Alert) Pin 9 - Green LED (Normal Breathing) Pin 10 - Blue LED (Shallow Breathing) 5V - Power supply for sensors

3.3V - Alternative power for sensors GND - Ground for all components

# MLX90614 THERMAL SENSOR CONNECTIONS:

VDD → Arduino 3.3V (Pin 3.3V) GND → Arduino GND

SDA → Arduino A4 (SDA) SCL → Arduino A5 (SCL)

# BMP280 PRESSURE SENSOR CONNECTIONS:

VCC → Arduino 3.3V (Pin 3.3V) GND → Arduino GND

SDA → Arduino A4 (SDA) [shared with MLX90614] SCL → Arduino A5 (SCL) [shared with MLX90614]

# LED CONNECTIONS:

Red LED (Apnea):

Anode → 220Ω Resistor → Arduino Pin 7 Cathode → Arduino GND

## Yellow LED (Hypopnea):

Anode → 220Ω Resistor → Arduino Pin 8 Cathode → Arduino GND

## Green LED (Normal):

Anode → 220Ω Resistor → Arduino Pin 9 Cathode → Arduino GND

## Blue LED (Shallow):

Anode → 220Ω Resistor → Arduino Pin 10 Cathode → Arduino GND

# BUZZER CONNECTIONS:

Positive → Arduino Pin 6 Negative → Arduino GND