# B.Tech. Project Report

Submitted in partial fulfillment of the requirements for the

**Lie Detrctor using Arduino**


**Submitted by**

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**PRESIDENCY UNIVERSITY, BENGALURU**
**202l-22**

**Department of Computer Science & Engineering**

**Bengaluru**


# Certificate

This is to certify that the project entitled "**Lie Detector "** has been successfully completed by Miss Guna Shree, Mr Ghanath, Mr Goutham , Mr Eranna Raju C and Mr G Lokesh of Sixth semester B.Tech at **Presidency University. Bengaluru,** as the Internet Of Things project in partial fulfilment for the award of B.Tech Degree course conducted by the Presidency University. The Project Report presented here is the bonafide work of the student.

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# Acknowledgement

While performing our project, we had to take the help and guidelines of some respected persons who deserve our greatest gratitude. The completion of this project gave us immense pleasure.

We are highly indebted to Dr. C.Kalaiarasan, Mr. Riyazulla Rahman J sir,for their guidance, constant supervision and for their support in completing our project.

We would like to express our gratitude to our parents for their kind co-operation and encouragement.

# ABSTRACT

**In this paper a low cost lie detector is presented using Arduino UNO. Lie detector works on the following principle-To measure the different responses that your bodies skingoes through depending on the situation you are in or the emotions you are feeling and the coolest thing of all is that we can see all of theses things happen in real time in an Arduino graph.**

**This paper also describes the hardware and software architecture of system, future work and scope. The proposed prototype of lie detector is implemented and tested on hardware and it gave the exact and expected results.**

# Table of Contents

# COMPONENTS USED

1. Arduino Uno
2. BreadBoard
3. LED
4. Resistor
5. Jumper wires

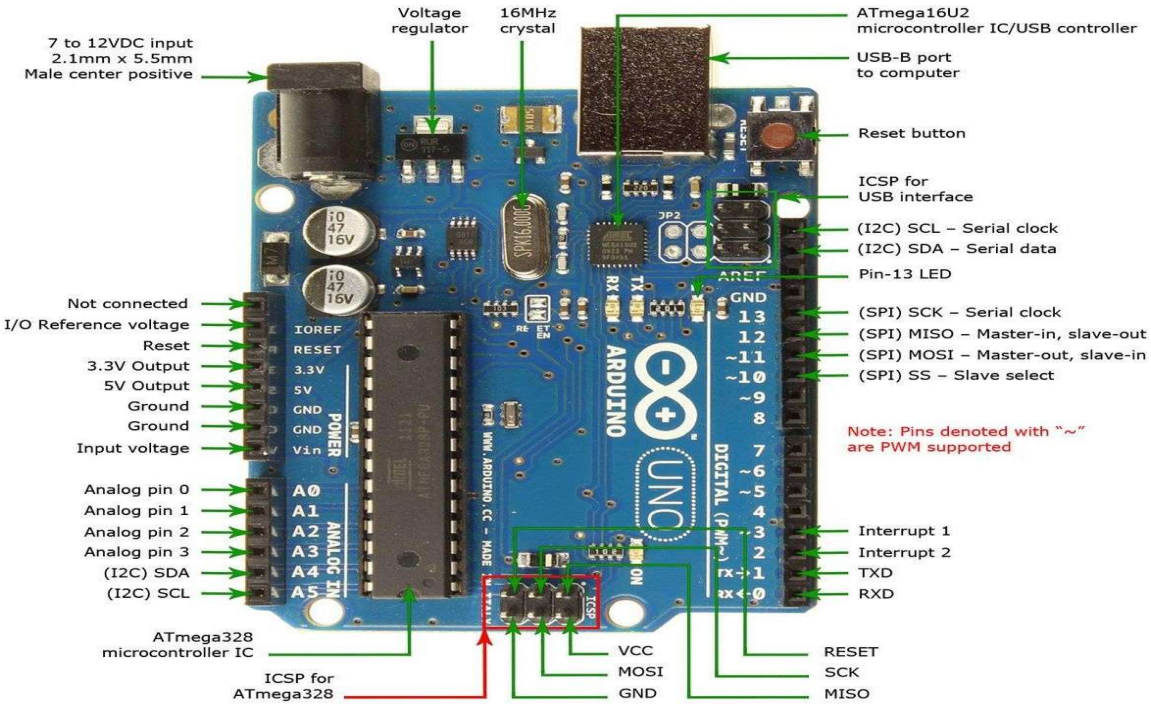
# FEATURE OF COMPONENTS USED

## 1. Arduino Board

Arduino is a prototype platform (open-source) based on an easy-to-use hardware and software. It consists of a circuit board, which can be programed (referred to as a microcontroller) and a ready-made software called Arduino IDE (Integrated Development Environment), which is used to write and upload the computer code to the physical board.

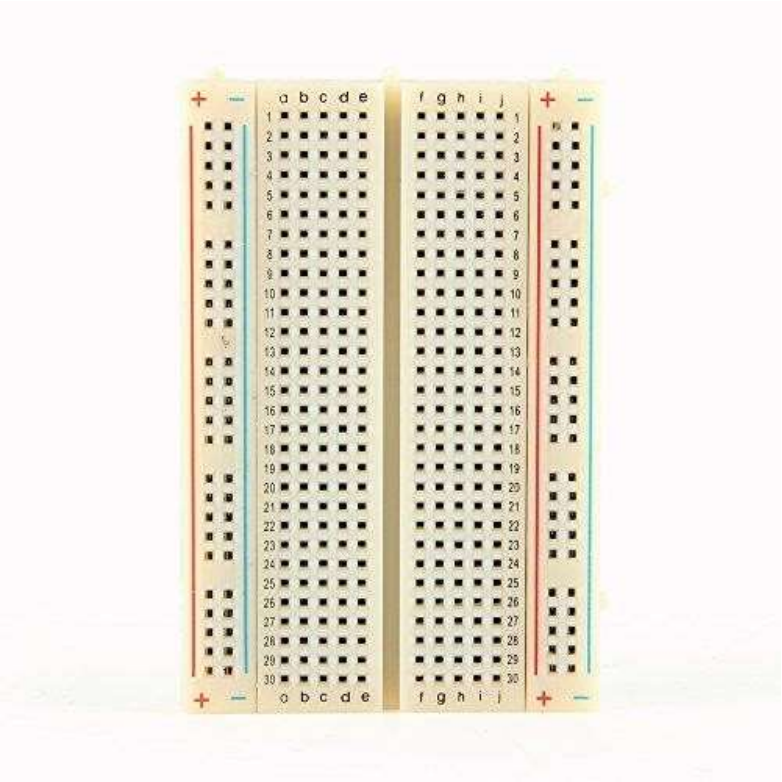
Arduino provides a standard form factor that breaks the functions of the micro-controller into a more accessible package.

### Arduino Pin Out Diagram



## 2. BreadBoard

A breadboard is a construction base for prototyping of electronics. Originally the word referred to a literal bread board, a polished piece of wood used for slicing bread.[1] In the 1970s the solderless breadboard (a.k.a. plugboard, a terminal array board) became available and nowadays the term "breadboard" is commonly used to refer to these.Because the solderless breadboard does not require soldering, it is reusable. This makes it easy to use for creating temporary prototypes and experimenting with circuit design. For this reason, solderless breadboards are also popular with students and in technological education. Older breadboard types did not have this property. A stripboard (Veroboard) and similar prototyping printed circuit boards, which are used to build semi-permanent soldered prototypes or one-offs, cannot easily be reused. A variety of electronic systems may be prototyped by using breadboards, from small analog and digital circuits to complete central processing units (CPUs).

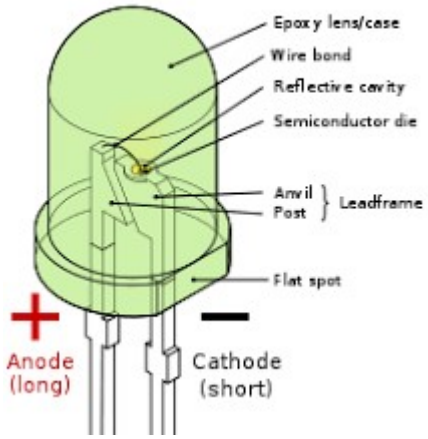


## 3. LED

Light-emitting diode (LED) is a widely used standard source of light in electrical equipment. It has a wide range of applications ranging from your mobile phone to large advertising billboards. They mostly find applications in devices that show the time and display different types of data.

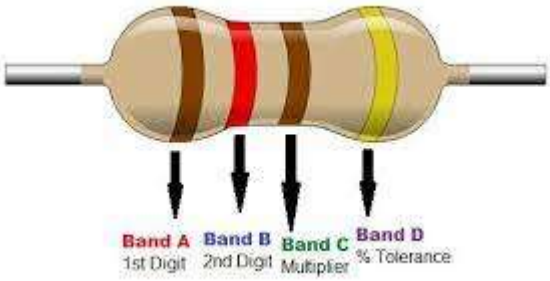
A light-emitting diode (LED) is a semiconductor device that emits light when an electric current flows through it. When current passes through an LED, the electrons recombine with holes emitting light in the process. LEDs allow the current to flow in the forward direction and blocks the current in the reverse direction.

Light-emitting diodes are heavily doped p-n junctions. Based on the semiconductor material used and the amount of doping, an LED will emit a coloured light at a particular spectral wavelength when forward biased. As shown in the figure, an LED is encapsulated with a transparent cover so that emitted light can come out.



## 4. Resistor

Resistors - the most ubiquitous of electronic components.
They are a critical piece in just about every circuit.
And they play a major role in our favorite equation, Ohm's Law.




## 5. Jumper Wires

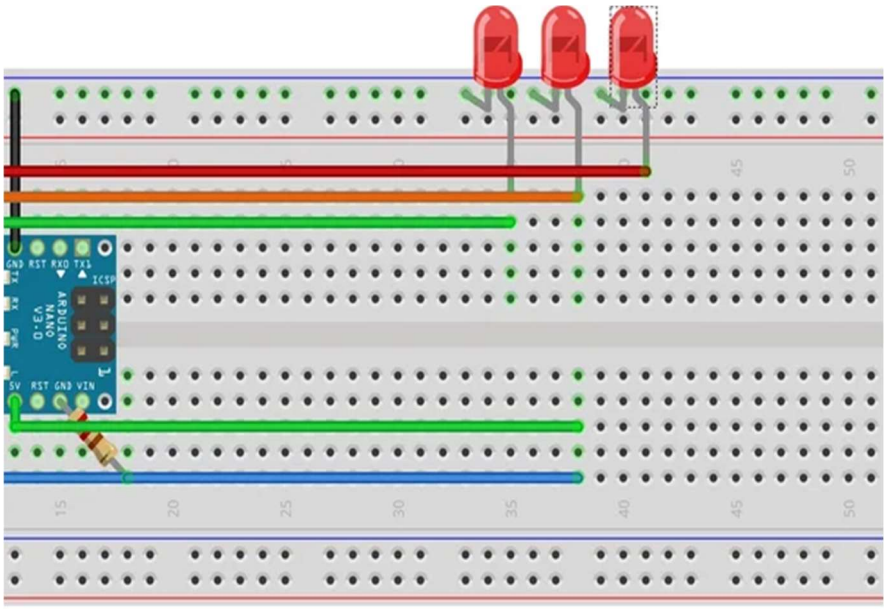
A jump **wire** (also known as **jumper wire**, or **jumper**) is an electrical **wire**, or group of them in a cable, with a connector or pin at each end (or sometimes without them – simply "tinned"), which is normally **used** to interconnect the components of a breadboard or other prototype or test circuit, internally or with other

Male to Male Jumper Wires

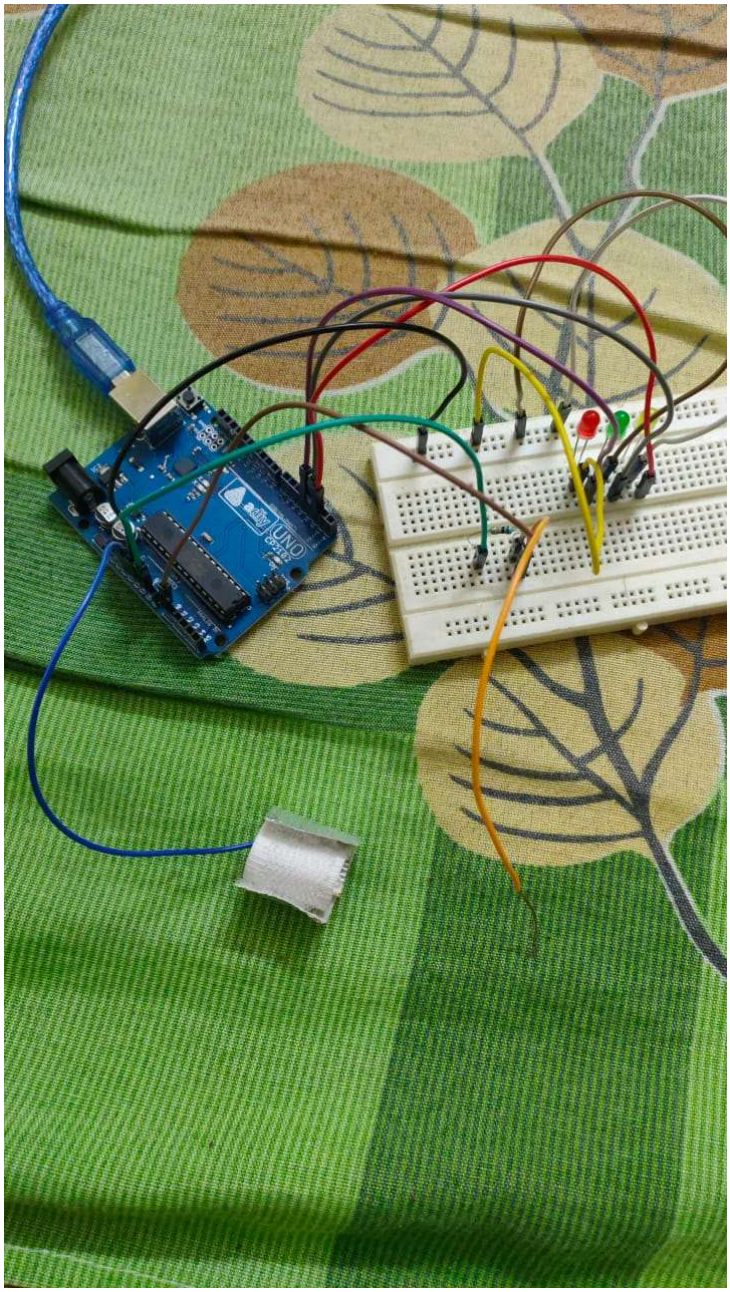
Female to Female Jumper Wires

Male to Female Jumper Wires

# Circuit DIAGRAMS



## Manual Connection of the Project:



# CODE

```
void setup()
{
 Serial.begin(9600);
 pinMode(2, OUTPUT);
 pinMode(3, OUTPUT);
 pinMode(4, OUTPUT);
 digitalWrite(2, HIGH);
 delay(500);
 digitalWrite(3, HIGH);
 delay(500);
 digitalWrite(4, HIGH);
 delay(500);
}

void loop()
{
 if (analogRead(A0) > 30)
 {
  digitalWrite(4, HIGH);
 }
 else
 {
  digitalWrite(4, LOW);
 }
 if (analogRead(A0) > 15)
 {
  digitalWrite(3, HIGH);
 }
 else
 {
  digitalWrite(3, LOW);
 }
 if (analogRead(A0) > 25)
 {
  digitalWrite(2, HIGH);
 }
 else
 {
  digitalWrite(2, LOW);
 }

 Serial.println(analogRead(A0));
 delay(20);
```

# README

1) First give the power supply to the Arduino board

2) Connect Led with resistors

3) Using Jumper wires as sensors we read the value

4) Observe the value in the graph

# CONCLUSION

Through this project we came across various components which gave us more insight about the subject “Internet Of Things”. Our project was about lie detector using Arduino

This objective of our project is the observe how our skin conducts different emotions of human body. Study of these emotions and change in them , is the main objective of our project.