**GETTING STARTED**:

Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino boards are able to read or take in an input and turn it into an output. This library was programmed to detect sounds and classify them as either good/positive or bad/negative.

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**Pre-Required Materials:**

* Wheels, Frame, and Motor Kit
* Circuit Board compatible with Arduino
* Microphone attachments for circuit board
* Motor driver

*Links for Pre-Required Materials:*

<https://www.amazon.com/perseids-Chassis-Encoder-Wheels-Battery/dp/B07DNXBFQN/ref=sr_1_5?crid=3A0L4MMK6YPS5&keywords=wheels+motor+and+frame+kit+arduino&qid=1645125352&sprefix=wheels+motor+and+frame+kit+arduino%2Caps%2C73&sr=8-5>

<https://www.amazon.com/Arduino-A000066-ARDUINO-UNO-R3/dp/B008GRTSV6/ref=sr_1_14?keywords=arduino+uno+circuit+board&qid=1645125576&sprefix=arduino+uno+circ%2Caps%2C86&sr=8-14>

<https://www.amazon.com/uxcell-Microphone-Detection-Digital-Projects/dp/B07VS3SLKP/ref=sr_1_24?crid=3NQZF8Y72D66T&keywords=microphone+attachment+for+arduino&qid=1645125628&sprefix=microphone+attachment+for+arduino%2Caps%2C95&sr=8-24>

<https://www.amazon.com/Qunqi-Controller-Module-Stepper-Arduino/dp/B014KMHSW6/ref=sr_1_2_sspa?crid=K6KBTCRFP5YK&keywords=motor+driver&qid=1646430231&sprefix=motor+driver%2Caps%2C230&sr=8-2-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUFGWjdTMThDSzJYRVMmZW5jcnlwdGVkSWQ9QTA0NDE5MDcyVEwwSU4wR1RYQTEmZW5jcnlwdGVkQWRJZD1BMDM3NzMzNjE1NUhMU1MwWE5WVEEmd2lkZ2V0TmFtZT1zcF9hdGYmYWN0aW9uPWNsaWNrUmVkaXJlY3QmZG9Ob3RMb2dDbGljaz10cnVl>

**TUTORIALS**:

How to Start :

1. Download Arduino IDE:

<https://www.arduino.cc/en/donate/>

* Select the software tab
* Select the download option that is

best for you

* Complete the setup and install

1. Download Echolocation Library:

(Provide link once it is published)

1. Run the Echolocation Library on your

Arduino robot

1. Once the sound library is downloaded,

functions can be modified as needed

**FAQ**:

* Can the Arduino robot detect any kind of sound?
  + While the microphones can detect any sound that is loud enough, the library will only be programmed to identify specific sounds.
* Can the library be changed?
  + Once the library is downloaded, it can be modified locally to fit the user's needs.
* How much does it cost to download the library?
  + The library is free for all users and considered an open-source project.