Approaching Traffic Haptic Information System (ATHIS)
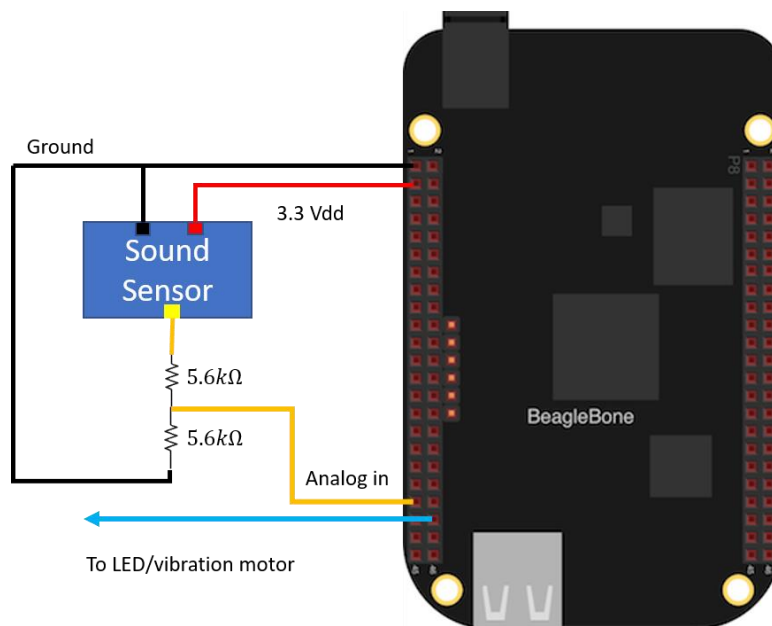
User Documentation

ATHIS is a prototype system for using audio signals to detect approaching vehicles. It is intended for use by slow moving or pedestrian traffic. The system comprises of a microphone, a Beaglebone Black kit, and a warning device.

To assemble the system you need:

1. BeagleBone Black with Linux operating system with application pre-loaded
2. 2x $5.6k\Omega$ resistors
3. Grove sound sensor (SKU 101020023)
4. Grove vibration motor (SKU 105020003)
5. Connector wires

Assemble the system like so:

Boot up the BeagleBone and log in to it using SSH. You will first need to enable analog pin functions. Execute the following command:

```
sudo echo BB-ADC > /sys/devices/platform/bone_capemgr/slots
```

Finally, run the application:

```
./ATHIS
```

The vibration motor should start buzzing when the sound sensor picks up the noise of an incoming vehicle. To quit the application, press Ctrl+C.

Disclaimer

This application is not ready for production environments. Do not use this while operating a vehicle. See technical documentation for more details.