

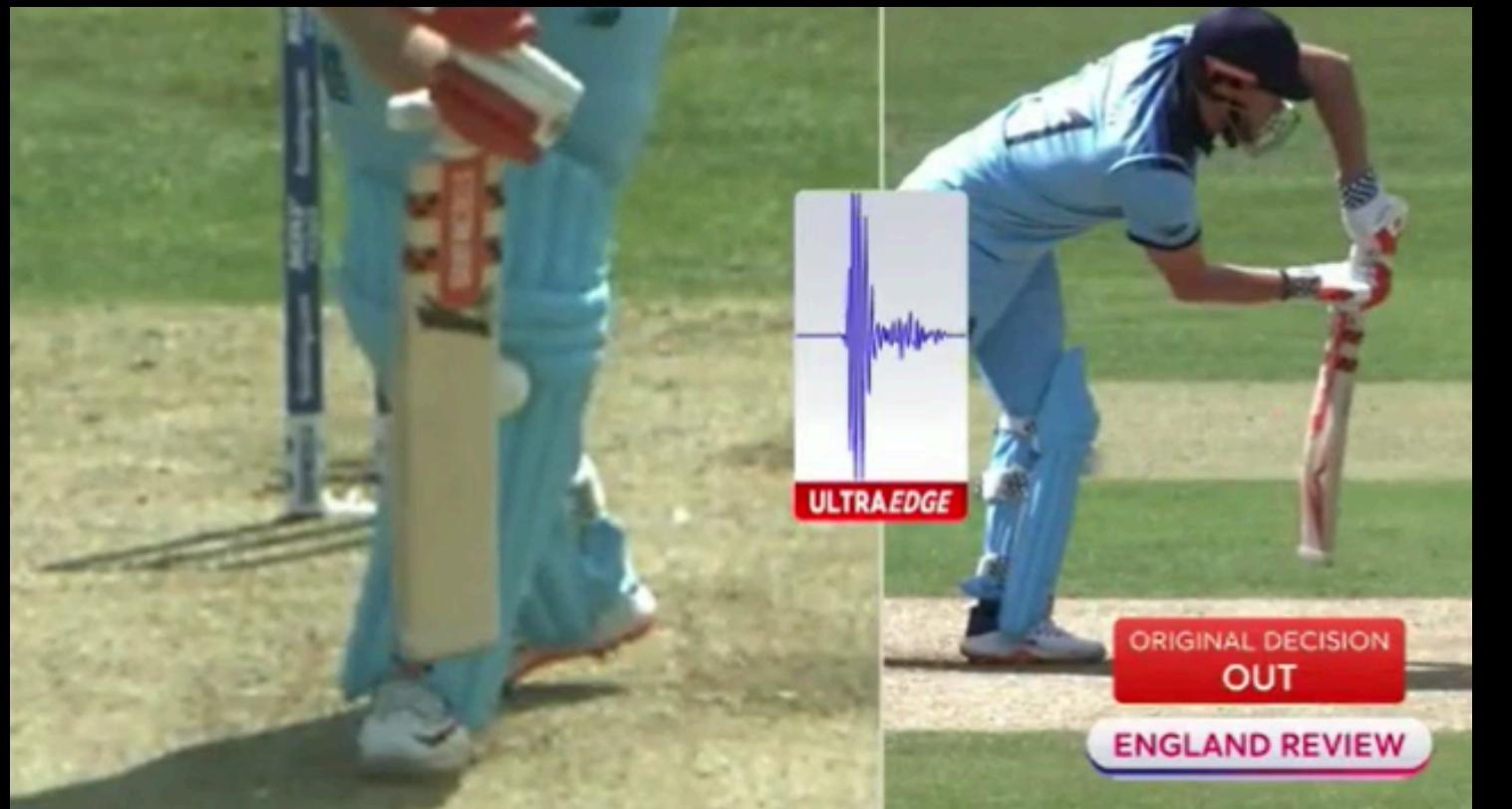
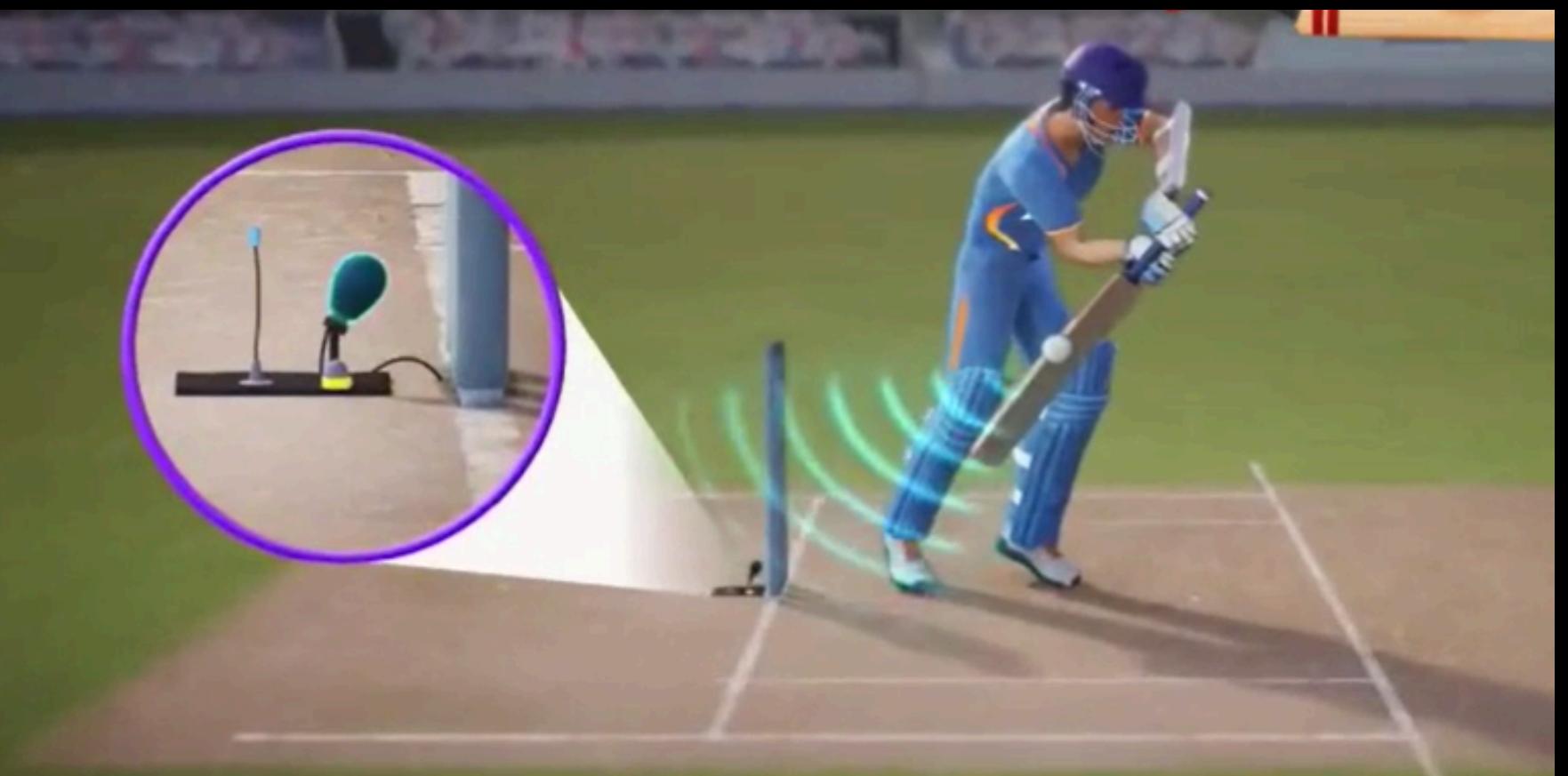
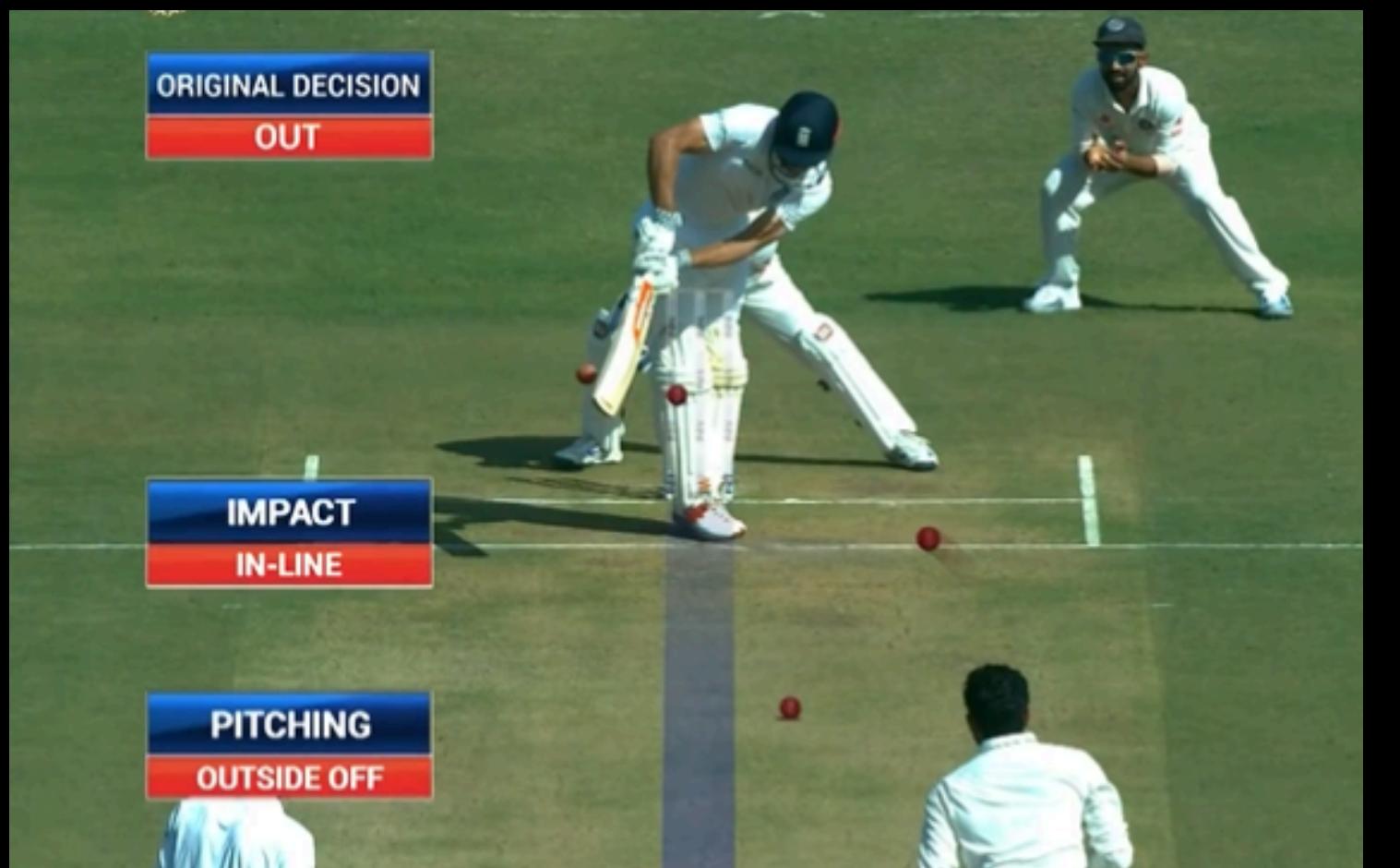
Snickometer

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IEE'25



Modern Technologies In Sports





Key Components of My Snickometer



Arduino UNO kit



Aculo Sound Sensor

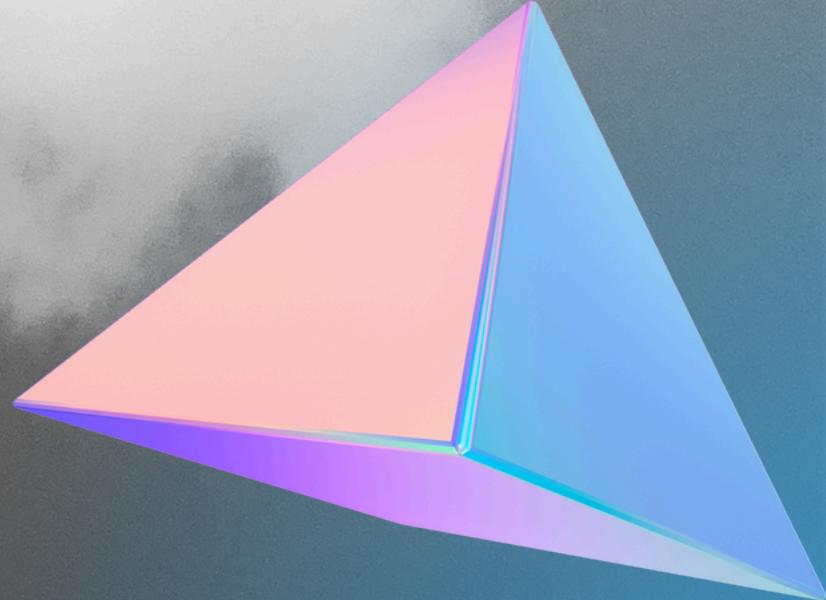
Tech Stack Used



Implementation

I will be demonstrating a simple snickometer using Arduino Uno kit , Sound Sensor,Python programming

Excited ? Lets go.....



```
● ○ ●

import tkinter
import cv2 # pip install opencv-python
import PIL.Image, PIL.ImageTk # pip install pillow
from functools import partial
import threading
import time
import imutils # pip install imutils

stream = cv2.VideoCapture("testdata.mp4")
flag = True
def play(speed):
    global flag
    print(f"You clicked on play. Speed is {speed}")

    # Play the video in reverse mode
    frame1 = stream.get(cv2.CAP_PROP_POS_FRAMES)
    stream.set(cv2.CAP_PROP_POS_FRAMES, frame1 + speed)

    grabbed, frame = stream.read()
    if not grabbed:
        exit()
    frame = imutils.resize(frame, width=SET_WIDTH, height=SET_HEIGHT)
    frame = PIL.ImageTk.PhotoImage(image = PIL.Image.fromarray(frame))
    canvas.image = frame
    canvas.create_image(0,0, image=frame, anchor=tkinter.NW)
    if flag:
        canvas.create_text(134, 26, fill="black", font="Times 26 bold", text="Decision Pending")
    flag = not flag
```

```
def pending(decision):
    # 1. Display decision pending image
    frame = cv2.cvtColor(cv2.imread("download.jpg"), cv2.COLOR_BGR2RGB)
    frame = imutils.resize(frame, width=SET_WIDTH, height=SET_HEIGHT)
    frame = PIL.ImageTk.PhotoImage(image=PIL.Image.fromarray(frame))
    canvas.image = frame
    canvas.create_image(0,0, image=frame, anchor=tkinter.NW)
    # 2. Wait for 1 second
    time.sleep(1.5)

    # 3. Display sponsor image
    # frame = cv2.cvtColor(cv2.imread("sponsor.png"), cv2.COLOR_BGR2RGB)
    # frame = imutils.resize(frame, width=SET_WIDTH, height=SET_HEIGHT)
    # frame = PIL.ImageTk.PhotoImage(image=PIL.Image.fromarray(frame))
    # canvas.image = frame
    # canvas.create_image(0,0, image=frame, anchor=tkinter.NW)

    # 4. Wait for 1.5 second
    time.sleep(2.5)
    # 5. Display out/notout image
    if decision == 'out':
        decisionImg = "out1.jpg"
    else:
        decisionImg = "notout1.jpg"
    frame = cv2.cvtColor(cv2.imread(decisionImg), cv2.COLOR_BGR2RGB)
```

```
def not_out():
    thread = threading.Thread(target=pending, args=("not out",))
    thread.daemon = 1
    thread.start()
    print("Player is not out")

# Width and height of our main screen
SET_WIDTH = 650
SET_HEIGHT = 368

# Tkinter gui starts here
window = tkinter.Tk()
window.title("Snickometer")
cv_img = cv2.cvtColor(cv2.imread("snicko.jpg"), cv2.COLOR_BGR2RGB)
canvas = tkinter.Canvas(window, width=SET_WIDTH, height=SET_HEIGHT)
photo = PIL.ImageTk.PhotoImage(image=PIL.Image.fromarray(cv_img))
image_on_canvas = canvas.create_image(0, 0, anchor=tkinter.NW, image=photo)
canvas.pack()

# Buttons to control playback
btn = tkinter.Button(window, text="<< Previous (fast)", width=50, command=partial(play, -25))
btn.pack()

btn = tkinter.Button(window, text="<< Previous (slow)", width=50, command=partial(play, -2))
btn.pack()

btn = tkinter.Button(window, text="Next (slow) >>", width=50, command=partial(play, 2))
btn.pack()

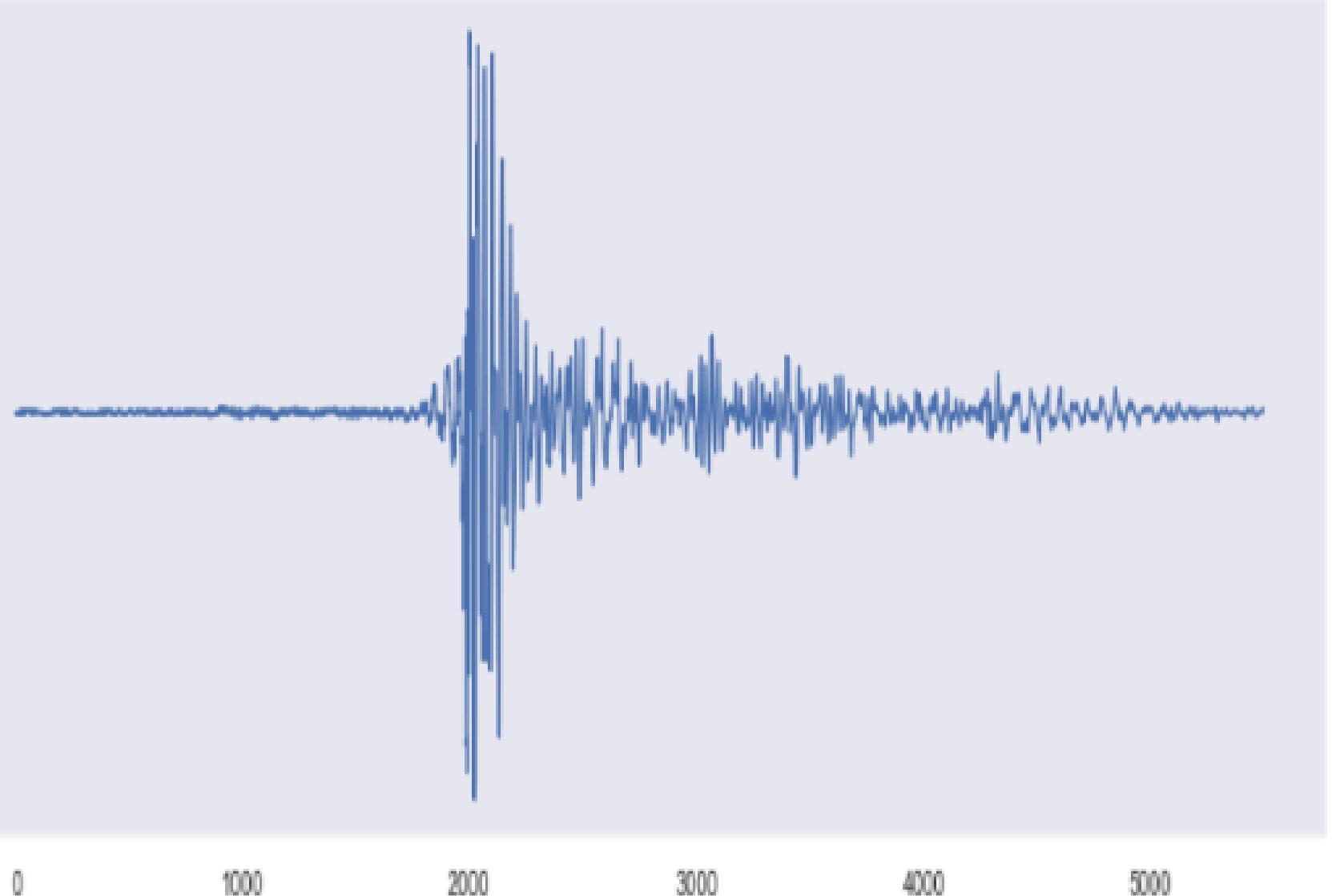
btn = tkinter.Button(window, text="Next (fast) >>", width=50, command=partial(play, 25))
btn.pack()

btn = tkinter.Button(window, text="Give Out", width=50, command=out)
btn.pack()

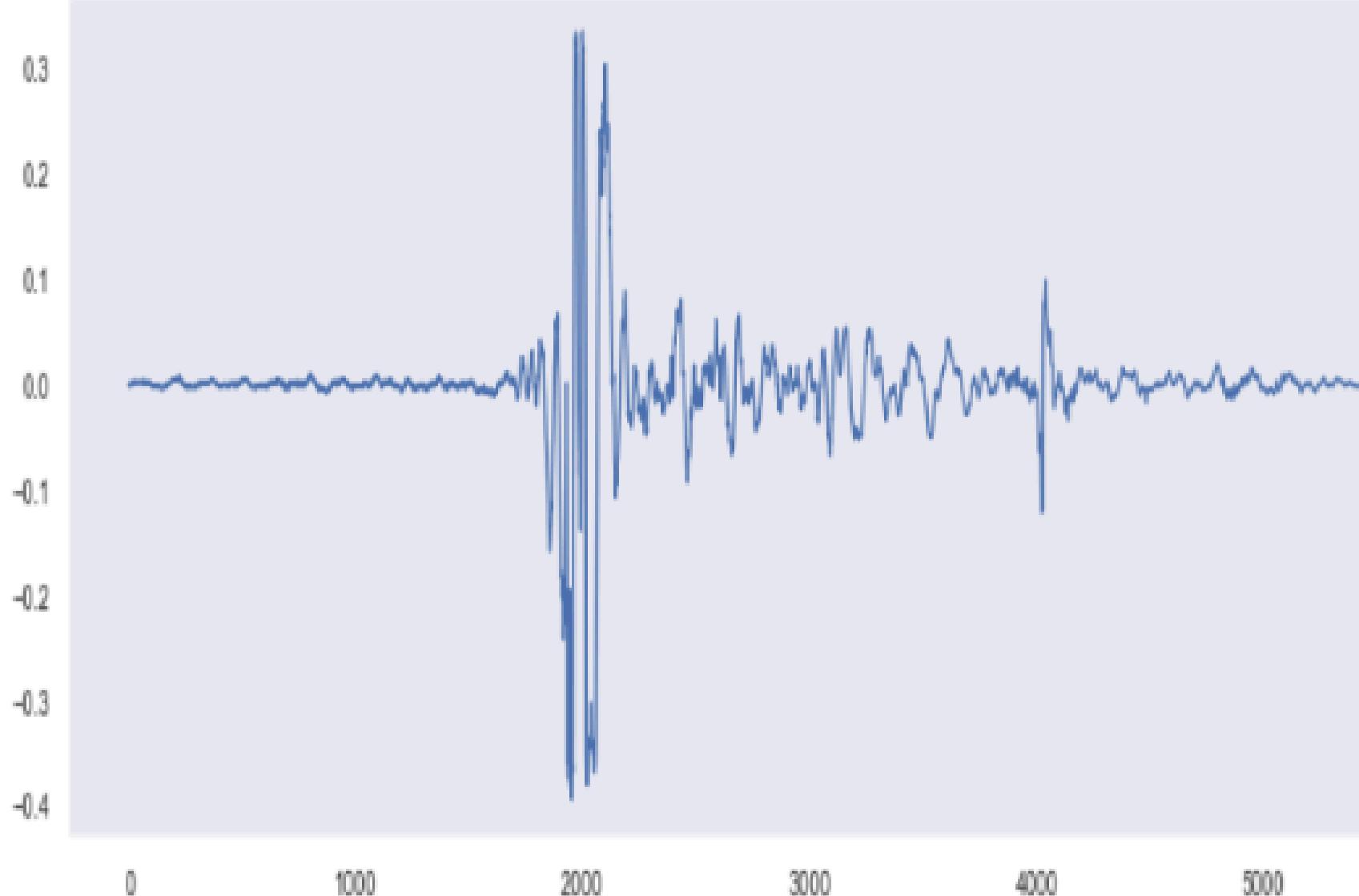
btn = tkinter.Button(window, text="Give Not Out", width=50, command=not_out)
btn.pack()
window.mainloop()
```



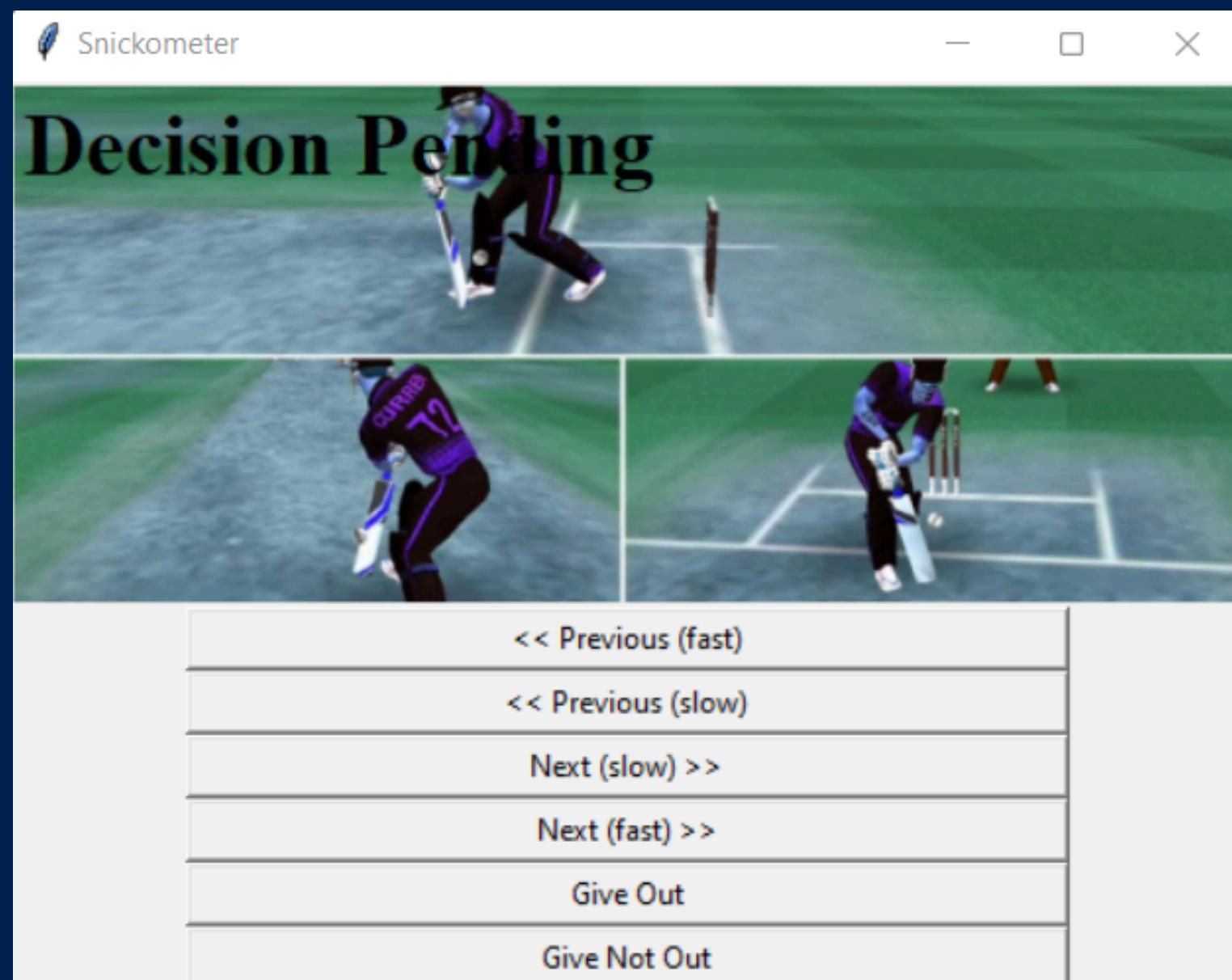
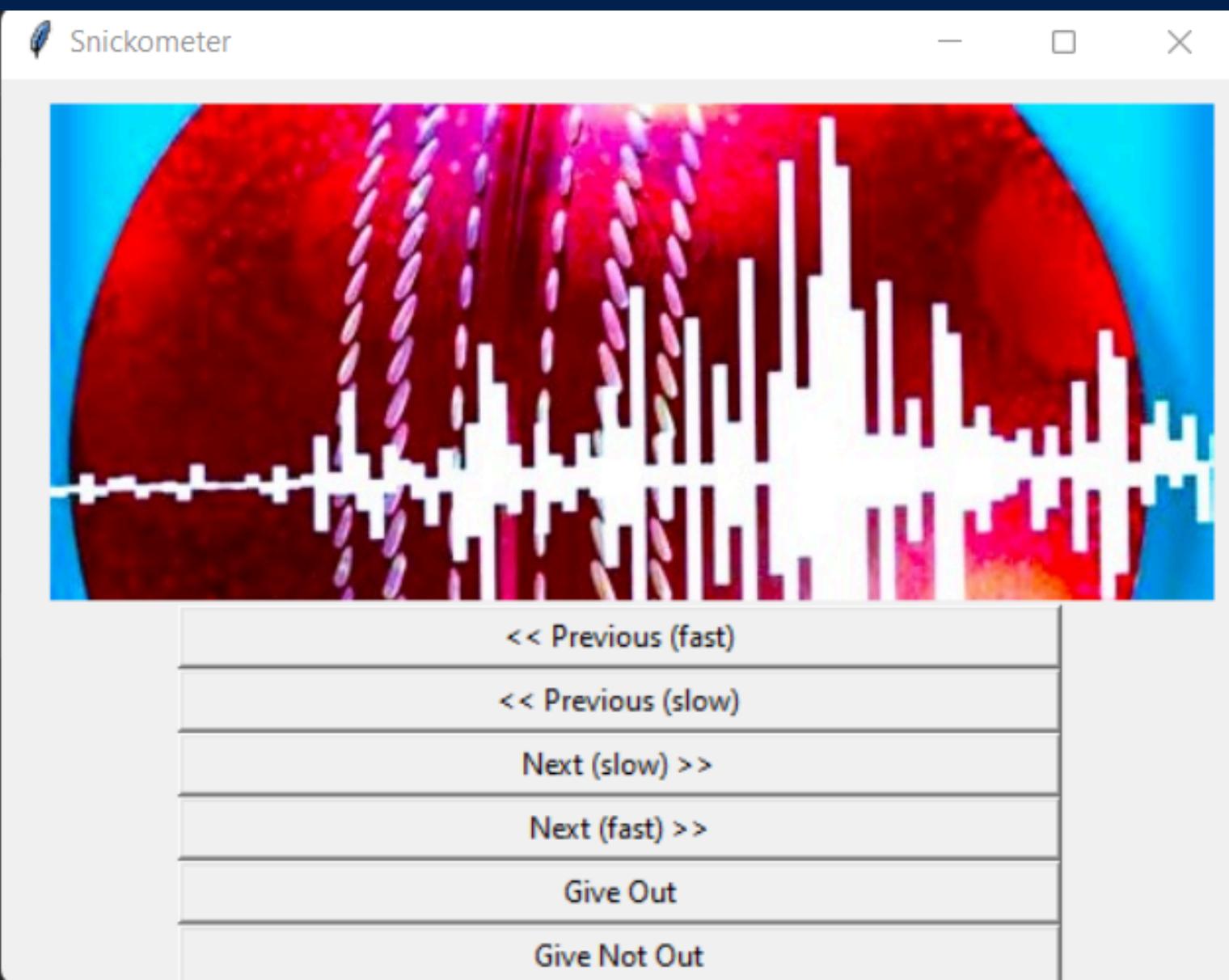
```
const int soundpin=A3;
const int threshold=600;
void setup(){
Serial.begin(9600);
pinMode(soundpin,INPUT);
}
void loop(){
int soundsens=analogRead(soundpin);
if(soundsens>=threshold){
Serial.print("edgeeee");
delay(1000);
}
}
```

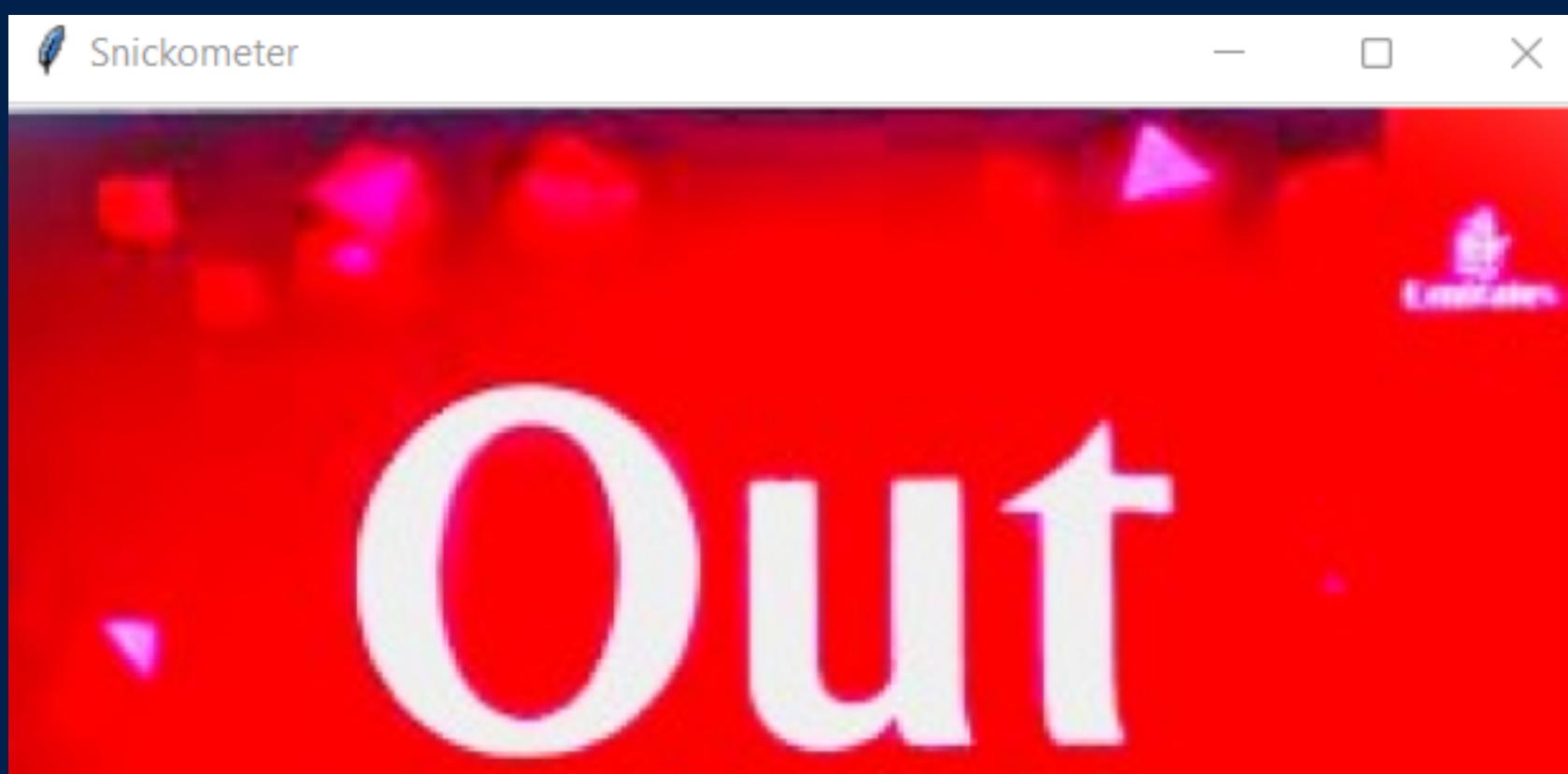
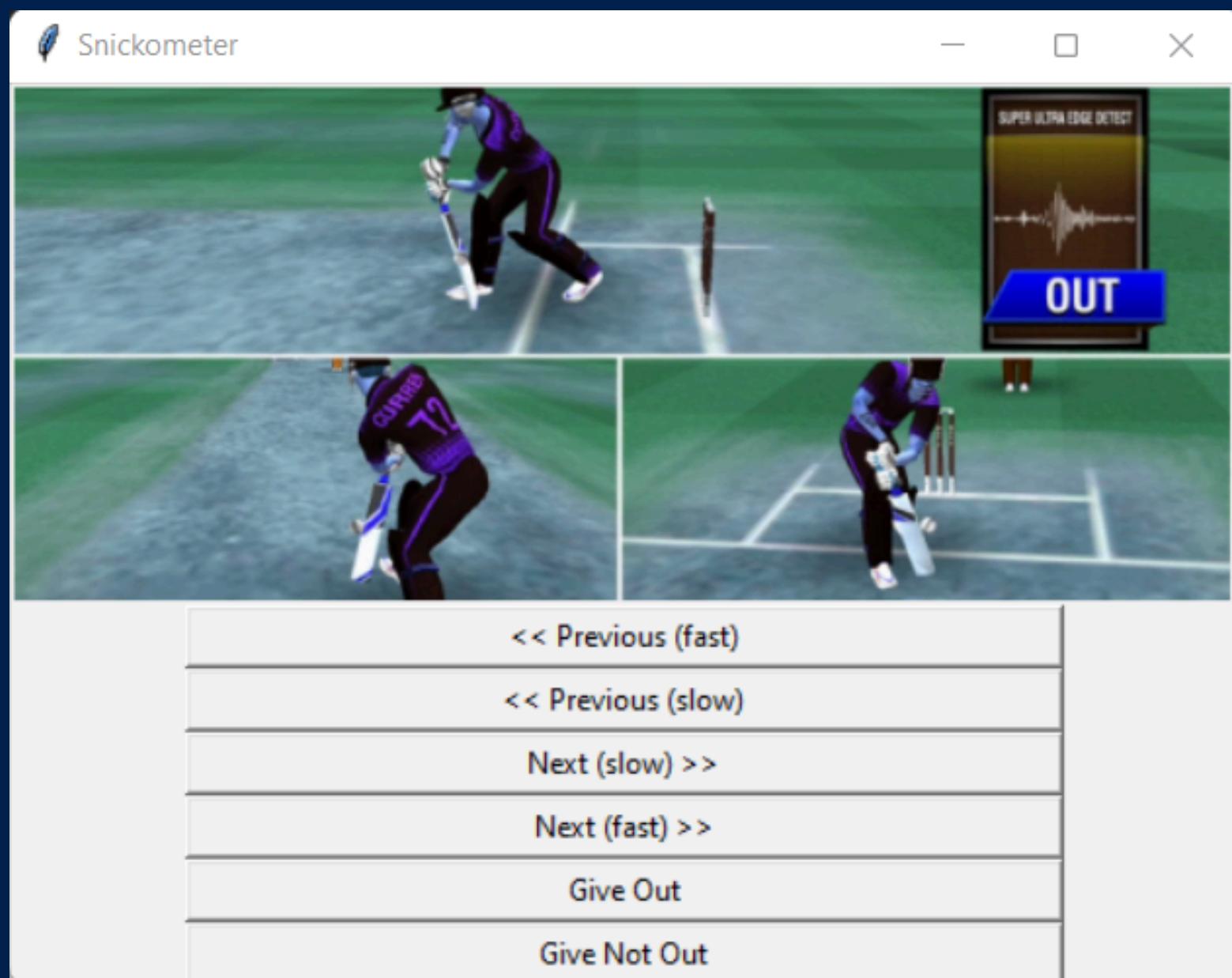
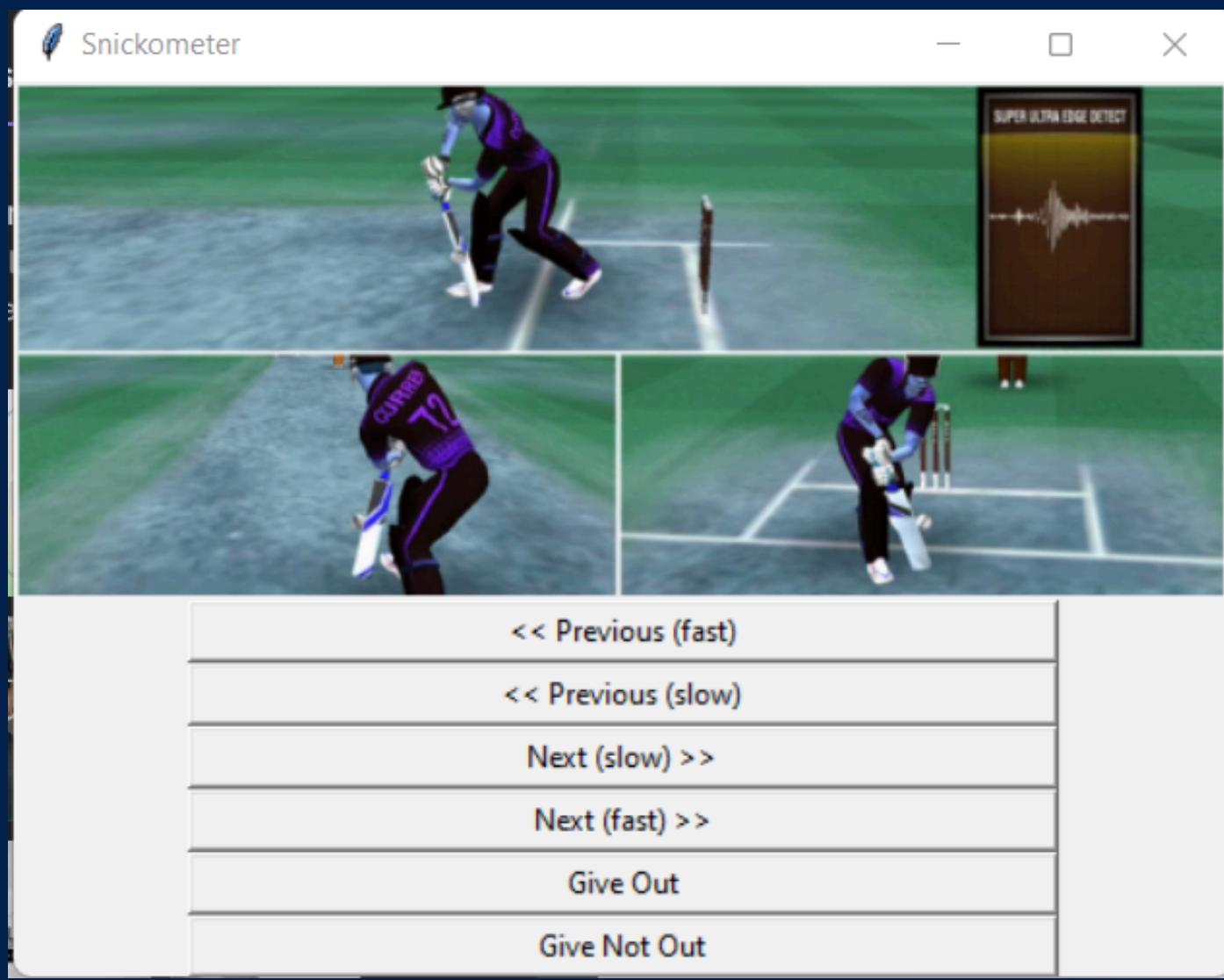


(a) Ball-Bat Snick

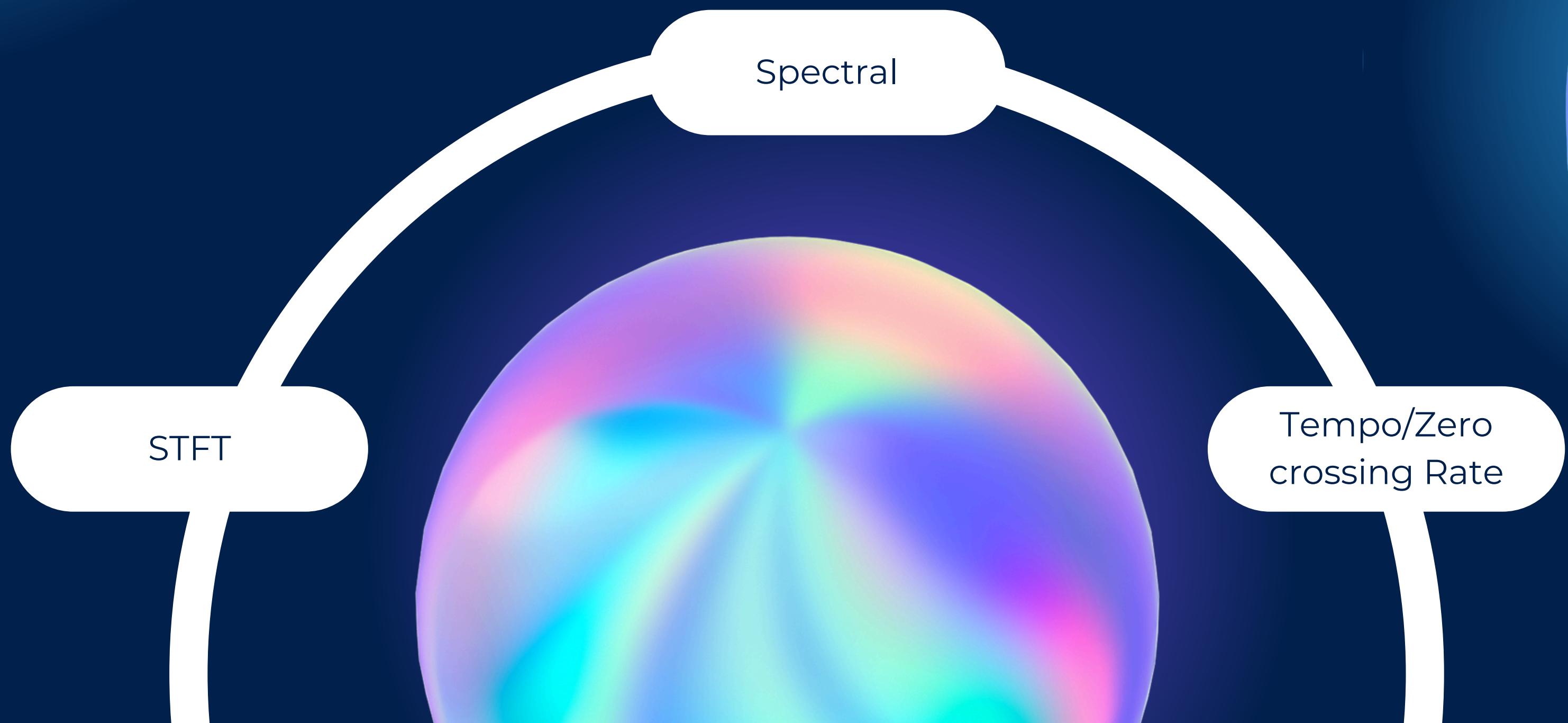


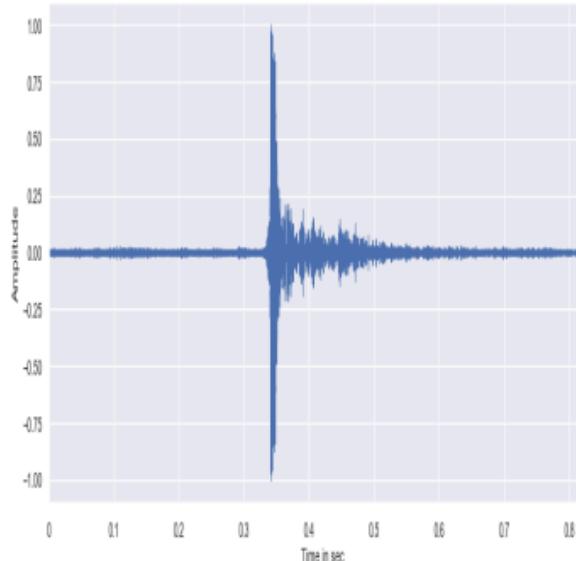
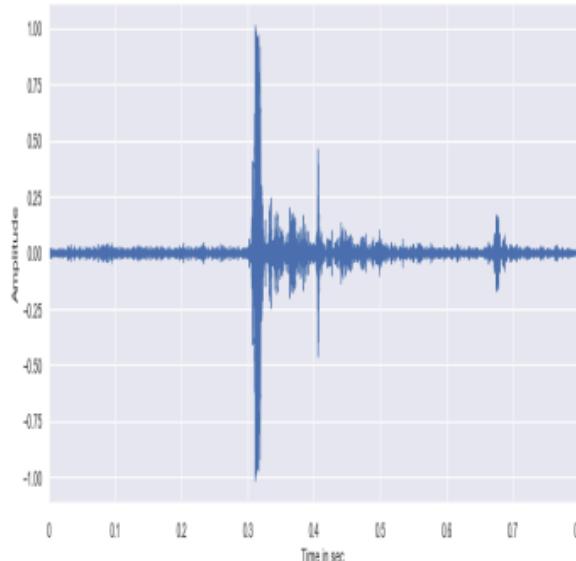
(b) Ball-Pad Snick





Algorithms



Feature	<i>Signal</i>	<i>Spectral Centroid</i>	<i>Spectral Rolloff</i>	<i>Zero Crossing</i>	<i>Tempo</i>	<i>Decision</i>
Bat-Ball		3238.65	6585.95	747	215.33	Out
Bat-Pad		3878.07	7015.40	400	107.66	Not Out

CREDITS and ACKNOWLEDGEMENTS

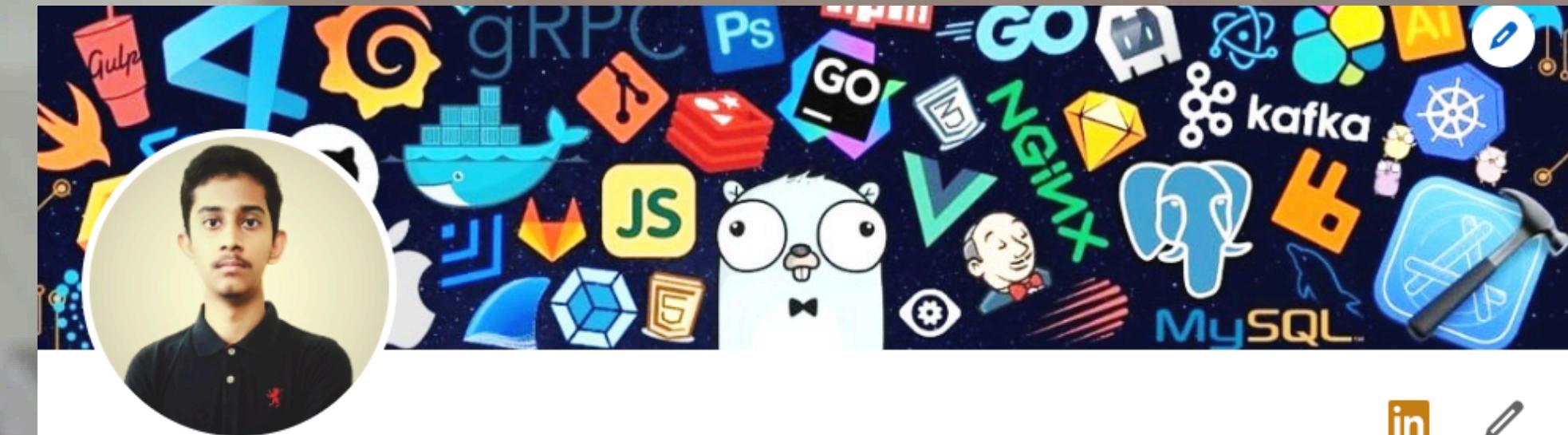


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Helped in setting up the
Hardware .

Connect:



Subham Sinha

JU IEE'25 || Web Developer || Open Source Contributor || ML enthusiast || Competitive Programmer || Enthusiastic learner in the field of Computer Softwares and Hardwares

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Thank You

