import cv2

from IPython.display import Video, display

# Load video

video\_path = 'videoplayback.mp4'  # Upload this file via Colab sidebar or use files.upload()

cap = cv2.VideoCapture(video\_path)

fps = cap.get(cv2.CAP\_PROP\_FPS)

w, h = int(cap.get(3)), int(cap.get(4))

# Generate videos at different speeds

for label, speed in {'normal': 1.0, 'slow': 0.5, 'fast': 2.0}.items():

    cap.set(cv2.CAP\_PROP\_POS\_FRAMES, 0)

    out = cv2.VideoWriter(f'{label}.mp4', cv2.VideoWriter\_fourcc(\*'mp4v'), fps \* speed, (w, h))

    while cap.isOpened():

        ret, frame = cap.read()

        if not ret: break

        out.write(frame)

    out.release()

cap.release()

# Display videos

for label in ['normal', 'slow', 'fast']:

    print(f"{label.capitalize()} motion:")

    display(Video(f'{label}.mp4', embed=True))

output:

