# What lifts are viable?

# Introduction –

The goal by the end of this paper is to find the lifts that are possible with SetStats. When the project is finished, we plan to be able to collect data for 3 different lifts. But before that, we must see if it is possible to even collect the required data necessary to count a rep, set, etc. While researching about OpenCV and MediaPipe I found a video with a similar premise. The video was using computer vision to count the reps of a bicep curl. Seeing as this is already done, I don’t want to recreate this.

From testing, I have found that the program only works when the camera is directed towards the front of the user, while being able to detect their face.

# Lifts –

According to staminaproducts.com, the 5 most fundamental lifts for beginners in weightlifting are: *“squats, deadlifts, bench press, bent-over rows and overhead barbell press”* (Stamina Products, 2017)

**Squats** – when doing a squat, it is important to keep your back straight, knees over ankles but before toes and make sure you don’t tilt (which will throw off balance). The data collected could be used to calculate reps, sets, tilt and if the user has squatted too low.

**Incline Bench Press** – the same can be done with this lift but instead of using the data from legs, we would collect chest and arm position.

**Shoulder Press** – A shoulder press would be very similar to the bench press with small deviations in code i.e., instead of chest, we would get shoulder data.

**Deadlift** – In our last project we worked mainly on the deadlift, by getting hight and sway to graph the movements. With this year’s technology, we can guide the user on a better lift.

# References

Stamina Products, 2017. *Beginners, Behold the Big Five Lifts Fundamental to Weightlifting.* [Online]   
Available at: https://staminaproducts.com/blog/beginners-big-five-weightlifting/  
[Accessed 30 October 2022].