



## Silhouette score / coefficient

When you say a given cluster is a good cluster?

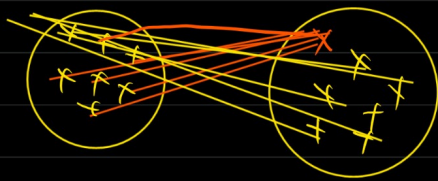
Point-1 → Within cluster dp's are compact =  
 tightly packed

### Point-2

Outside cluster sum of square  
 Should be as maximum as possible (OCSS) from nearest cluster  
 intercluster distance =

WCSS → should be minimum

Intra-cluster distance should be min.



\* Separable cluster | good cluster.

WCSS →  $a(i)$  → min  
 OCSS →  $b(i)$  → max (min)

$b(i)$  → OCSS  
 $a(i)$  = WCSS

$$\text{Silhouette Score} = \frac{b(i) - a(i)}{\max(a(i), b(i))}$$

( $i$  is any dp.)

-1 to 1 More near to 1 better the cluster would be

