

Definition:

- Segmentation is the process of partitioning a digital image into multiple regions and extracting the meaningful region which is known as Region of Interest (ROI)

A. Region of Interest (ROI) vary with applications

B. In fact no single universal segmentation algorithm exists for segmenting the ROI in all images

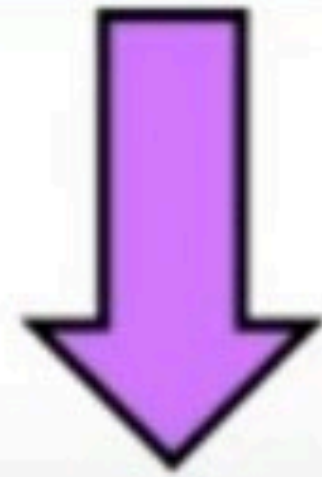
C. Therefore many segmentation algorithms need to apply and pick that algorithm which performs the best for given requirement

- Segmentation is the process of partitioning a digital image into multiple regions and extracting the meaningful region which is known as Region of Interest (ROI)
 - A. Region of Interest (ROI) vary with applications
 - B. In fact no single universal segmentation algorithm exists for segmenting the ROI in all images
 - C. Therefore many segmentation algorithms need to apply and pick that algorithm which performs the best for given requirement

Image Segmentation Algorithms are based on:

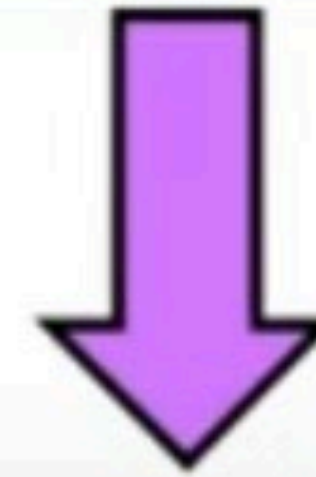
```
graph TD; A[Image Segmentation Algorithms are based on:] --> B[Similarity Principle (Region Approach)]; A --> C[Discontinuity Principle (Boundary Approach)]; B --> D[Objective is to group pixels based on common property to extract a coherent region]; C --> E[Objective is to extract regions that differ in properties like intensity, color, texture etc.]
```

✓ **Similarity Principle**
(Region Approach)



Objective is to group pixels based on common property to extract a coherent region

✓ **Discontinuity Principle**
(Boundary Approach)



Objective is to extract regions that differ in properties like intensity, color, texture etc. ✓

