

Module 10: Unsupervised Learning

Case Study

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Case Study

Objective:

- Use k-means clustering for image segmentation and to identify dominant color in the image.

Question:

1. Open and display the image “dog.jpeg”. Convert the image in to numpy array, so that it can be used in further processing.

[Hint: Use PIL module from python]

2. Find out the dimensions of the image and convert it in to a two-dimensional array.

3. Use kmeans clustering with k set to 3 and cluster the image.

[Hint: Refer to k-means module of scikit learn]

4. Predict the cluster label of every pixel in the image and plot it back as an image.

5. Find out the three dominant color in the image.

[Hint: The cluster centers should correspond to three dominant colors]