



Motivation

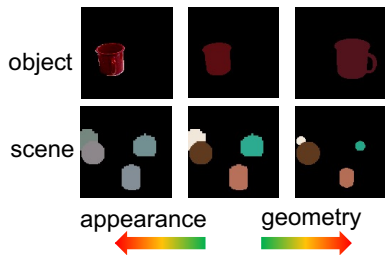
Synthetic

Real-world



Is it possible to segment generic objects from real-world single images?

What is an object?



- **Object:** individual appearance & geometric shape.
- **Scene:** relative appearance & geometric layout between objects.

Complexity Factors

Object Color Gradient: how frequently the appearance changes within the object mask.



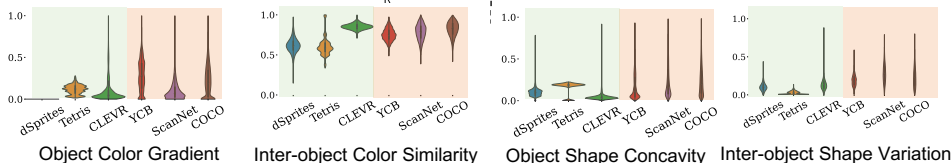
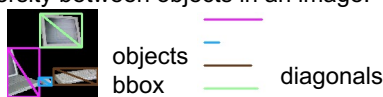
Object Shape Concavity: how irregular the object boundary is.



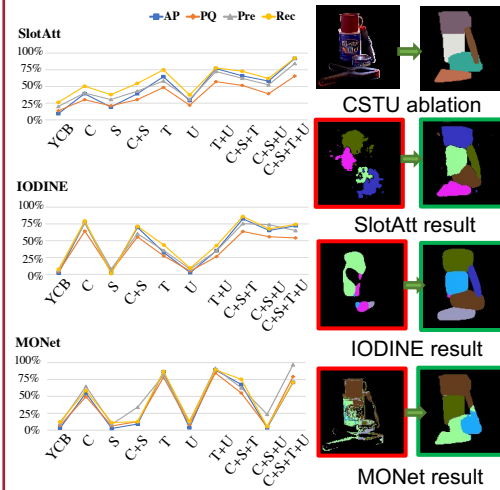
Inter-object Color Similarity: appearance similarity between objects in an image.



Inter-object Shape Variation: geometry diversity between objects in an image.



Ablation Results



Ablation Datasets

C: erase gradient inside an object.

S: reduce irregularity of an object shape.

T: diversify objects appearance in scene.

U: Unify size of objects in scene.

original

CS

TU

CST

CSU

CSTU

Summary

- Synthetic and real-world datasets have different objectness biases.
- Different models favor different objectness bias.
- None of the model can fully capture the true objectness biases in real-world images.
- More discriminative object biases should be explored (e.g., motions).