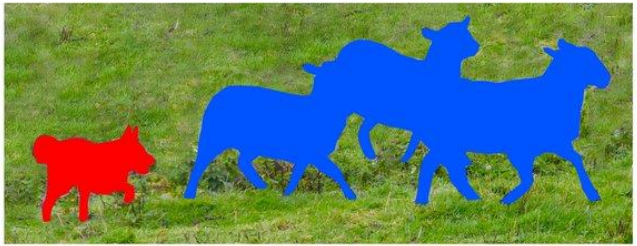
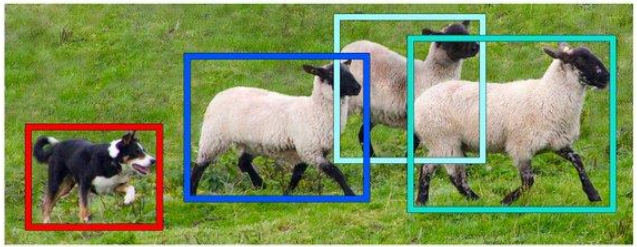
# Image Recognition Problems

# Overview

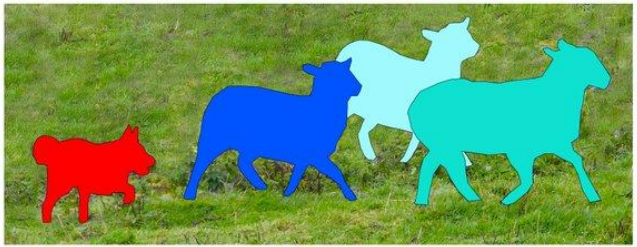

Image Recognition



Semantic Segmentation



Object Detection



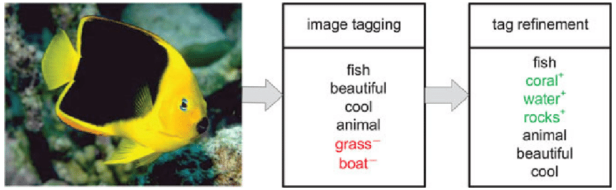
Instance Segmentation

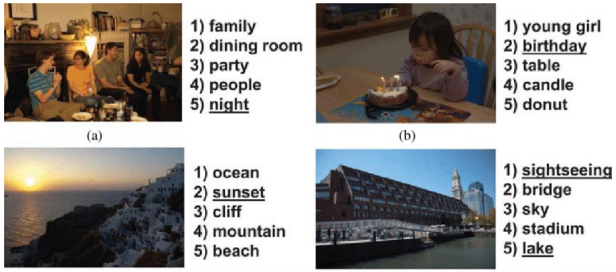
Img src: https://twitter.com/chrieke/status/963513791593046016

# image - tagging

**description**

- eng) Image tagging is the process of labeling or keywording images based on figures within a certain picture.
- kor) image tagging은 입력 이미지에서 이미지의 특징을 설명하는 키워드를 추출하는 과정이다.



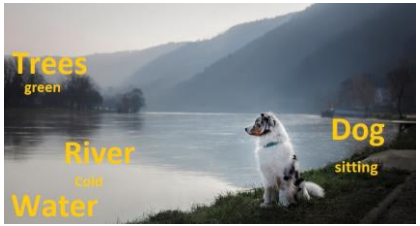

**application**

- Apple iPhoto, Google Picasa, Adobe Photoshop Elements
- Google ImageLabeler, Flickr.com, FotoNotes

**video url**

**references**

- https://www.canto.com/blog/image-tagging/
- http://people.cs.pitt.edu/



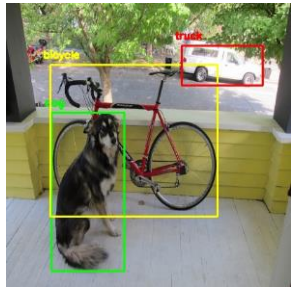

# image - detection

**description**

- eng) Object detection is the task of detecting instances of objects of a certain class within an image and videos
- kor) object detection은 입력 이미지에서 특정 사물(object)을 식별(detect)하고 해당 사물의 위치에 bounding box를 그리는 과정이다.

**application**

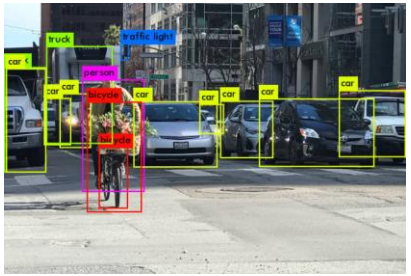
- picture retrieval, security, observation, computerized vehicle systems and machine investigation
- tracking objects, people counting, CCTV, vehicle detection, person detection




**video url**

**references**

- https://paperswithcode.com/task/object-detection
- https://www.pixelsolutionz.com/application-object-detection-real-life/#:~:text=Object%20detection%20is%20applied%20in,the%20field%20of%20object%20detection.



# image – instance segmentation

**description**

- eng) Instance segmentation is the task of detecting and delineating(상세하게 기술,설명하다) each distinct object of interest appearing in an image
- semantic segmentation과의 차이: it gives a unique label to every instance of a particular object in the image.
- kor) instance segmentation은 입력 이미지에서 각 물체 하나하나를 픽셀 단위로 식별하는 과정이다.
- instance segmentation은 semantic segmentation과 다르게 각 객체 하나하나에 고유한 라벨을 부여한다.

**application**

- Handwriting Recognition, Google portrait mode, YouTube stories, virtual make-up, virtual try-on, self-driving cars, visual image search

**video url**

**references**

- https://paperswithcode.com/task/instance-segmentation

# image – semantic segmentation

**description**

- eng) Semantic segmentation is the process of classifying each pixel belonging to a particular label
- instance segmentation과의 차이: It doesn't different across different instances of the same object.
- kor) semantic segmentation은 입력 이미지에서 각 픽셀이 어떤 label에 속하는지 분류하는 과정이다.
- semantic segmentation은 instance segmentation과 다르게 각 객체 하나하나를 구분하지 않고 label(class) 단위로 식별한다.

**application**

- Handwriting Recognition, Google portrait mode, YouTube stories, virtual make-up, virtual try-on, self-driving cars, visual image search
- Autonomous driving, Industrial inspection, Classification of terrain visible in satellite imagery, Medical imaging analysis

**video url**

**references**

- https://nanonets.com/blog/semantic-image-segmentation-2020/
- https://kr.mathworks.com/help/vision/ug/getting-started-with-semantic-segmentation-using