pre-survey instructional material

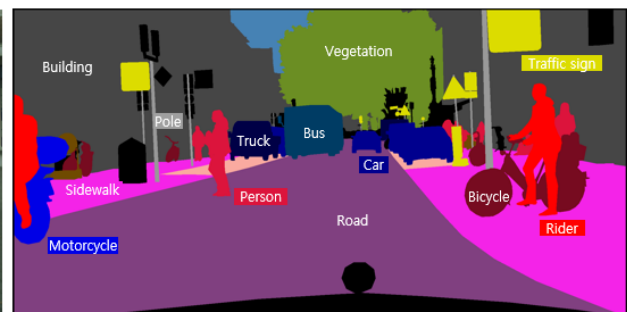
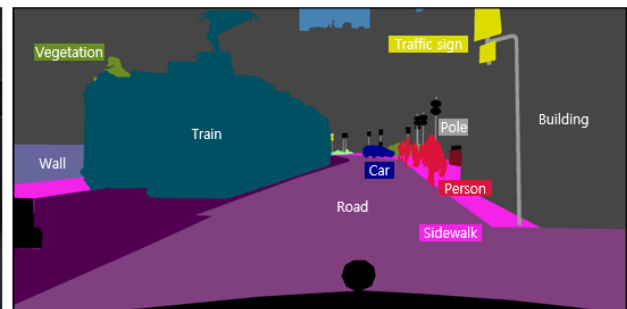
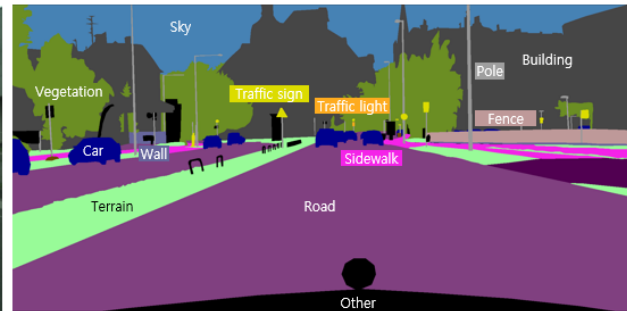
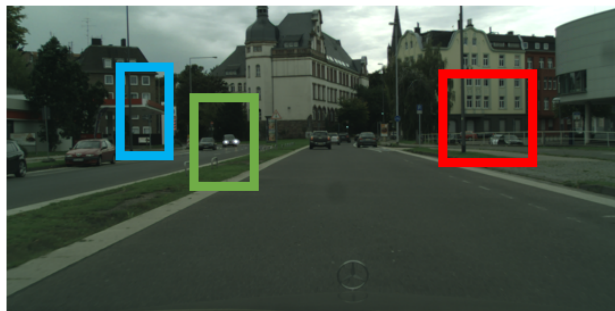
Cityscapes is a dataset of street scene images from several cities in Germany that has been annotated for semantic segmentation. This dataset includes 19 different classes, which are:

1. Road
2. Building
3. Vegetation (all kinds of vertical vegetation)
4. Terrain (all kinds of horizontal vegetation)
5. Car
6. Sidewalk
7. Sky
8. Pole
9. Person
10. Fence
11. Wall
12. Traffic sign
13. Traffic light
14. Bicycle
15. Truck
16. Bus
17. Train
18. Motorcycle
19. Rider
20. Other

Here is an example of an image and its corresponding classes.

Example of images and classes

- Below are examples of actual images and their corresponding mask labels. Please remember the shapes and characteristics of each class, and use this as a basis for your subsequent annotation.

- The boxed areas highlight and compare particularly confusing classes. Please pay attention to the class masks within these boxes and proceed with your annotation accordingly.

Dominant and multi labeling

We request you to provide annotations with two types of questions.

1. Dominant labeling - Select the **dominant class** that corresponds to the inside of the red boundary.
2. Multi labeling - Select the **all classes** that exist within the red boundary.

When answering each question, **please exclude pixels covered by a red boundary**. And **"dominant class"** denotes the class that encompasses **the majority of the pixels** inside the red boundary.

Example of dominant and multi labeling

Description : The pixels located within the red boundary comprise fence (913 pixels, 87.9%), building (78 pixels, 7.51%), and bicycle (47 pixels, 4.52%).

Q1. Select the **dominant class** that corresponds to the inside of the red boundary.

Answer) Since the majority of pixels belong to the fence class, the dominant class is "fence".

Q2. Select **all the classes** that exist within the red boundary.

Answer) The answers are "fence", "building", and "bicycle".

1. (Example) 1. Select the **dominant class** that corresponds to the inside of the red boundary. (Answer : Car)

- ☐ Road
- ☐ Building
- ☐ Vegetation (all kinds of vertical vegetation)
- ☐ Terrain (all kinds of horizontal vegetation)
- ☐ Car
- ☐ Sidewalk
- ☐ Sky
- ☐ Pole
- ☐ Person
- ☐ Fence
- ☐ Wall
- ☐ Traffic sign
- ☐ Traffic light
- ☐ Bicycle
- ☐ Truck

- ⬭ Bus
- ⬭ Train
- ⬭ Motorcycle
- ⬭ Rider

2. (Example) 2. Select the **dominant class** that corresponds to the inside of the red boundary. (Answer : Fence)

○ Road

○ Building

○ Vegetation (all kinds of vertical vegetation)

○ Terrain (all kinds of horizontal vegetation)

○ Car

○ Sidewalk

○ Sky

○ Pole

○ Person

○ Fence

○ Wall

○ Traffic sign

○ Traffic light

○ Bicycle

- ( ) Truck
- ( ) Bus
- ( ) Train
- ( ) Motorcycle
- ( ) Rider

3. (Example) 3. Select the **dominant class** that corresponds to the inside of the red boundary. (Answer : Vegetation)

○ Road

○ Building

○ Vegetation (all kinds of vertical vegetation)

○ Terrain (all kinds of horizontal vegetation)

○ Car

○ Sidewalk

○ Sky

○ Pole

○ Person

○ Fence

○ Wall

○ Traffic sign

○ Traffic light

○ Bicycle

○ Truck

○ Bus

○ Train

○ Motorcycle

○ Rider

4. (Example) 4. Select **all the classes** that exist within the red boundary. (Answer :
    Fence, Building, Bicycle)

- [ ] Road
- [ ] Building
- [ ] Vegetation (all kinds of vertical vegetation)
- [ ] Terrain (all kinds of horizontal vegetation)
- [ ] Car
- [ ] Sidewalk
- [ ] Sky
- [ ] Pole
- [ ] Person
- [ ] Fence
- [ ] Wall
- [ ] Traffic sign
- [ ] Traffic light
- [ ] Bicycle
- [ ] Truck
- [ ] Bus
- [ ] Train

☐ Motorcycle
☐ Rider

5. (Example) 5. Select **all the classes** that exist within the red boundary. (Answer : Vegetation, Sky)

☐ Road
☐ Building
☐ Vegetation (all kinds of vertical vegetation)
☐ Terrain (all kinds of horizontal vegetation)
☐ Car
☐ Sidewalk
☐ Sky
☐ Pole
☐ Person
☐ Fence
☐ Wall
☐ Traffic sign
☐ Traffic light
☐ Bicycle
☐ Truck
☐ Bus
☐ Train
☐ Motorcycle
☐ Rider