# License Plate Recognition Annotation Instructions

## Summary

The task is to label all of the visible license plates, vehicles, humans and human faces.

- 1. When annotating a LICENSE\_PLATE, make sure:
  - → Add a bounding box around LICENSE\_PLATE that is at least 20 pixels wide and at least 50% visible. This applies even to those license plates with no decipherable text.
  - → The **Occlusion** attribute labels the visibility of the characters on the license plate.
  - → The *PlateReadable* attribute indicates if all characters on the license plate are identifiable.
- 2. When annotating a **VEHICLE**, make sure to:
  - → Select the correct vehicle subclass.
  - → Only draw the box over vehicles that has one side over **50 percent visible**.
  - ◆ In other words, annotate if at least one of the sides (back, front or side of the vehicle) is 50 percent visible or more. Examples:
    - Annotate if the rear end of the car (trunk) is at least 50% visible.
    - Annotate If the front end of the car (hood) is at least 50% visible.
  - → Select multiple colors if the vehicle is multi-colored.
- 3. When annotating a **HUMAN\_BODY**, make sure you:
  - → Add a bounding box around human bodies with a **minimum size of 30 pixels** diagonal.
  - → Annotate the human body:
    - when both the body (torso) and the legs/leg are visible (more than 80%), if the head is not visible (either occluded or out of Field Of View).
    - when the shoulder(s) and partial arm/arms at least are also visible, if the head is visible.
  - → Only annotate the visible portions of the body. Do not annotate the occluded parts of the human body.
- 4. When annotating a **HUMAN\_FACE**, make sure you:
  - → Add a bounding box around human faces with a minimum size of 20 pixels wide.
  - → Add a bounding box only when:
    - The human face has at least one eye (including sunglasses), half a nose, and half a mouth visible, if the human face has no mask/coverings.
    - The human face has at least one eye (including sunglasses), if the face has a mask/covering. The mask/covering can be covering the mouth, nose, or eye.

- → Draw rectangles very tight in size with respect to the face, not the head.
- → Leave out hat, hair, ears as much as possible while retaining the entire face.
- → Have the bottom of the box touch the chin.
- → Annotate human faces in an enclosed vehicle, when the face fits these criteria above.

### N.B.:

- Use the "Grouping" feature to relate a license plate to it's vehicle.
- When handling images with red regions (see exemples), only annotate targets outside of that region.

Explanation	Example
Incorrectly Annotated. The person on the right with her feet inside the light red area should not be annotated.	
Correctly Annotated. The person on the left with his bottom pixel (shoes) outside of the red area is annotated. The other person on the right with her feet inside the light red area is not annotated.	

# Ontology

Categories	Example Picture	Description
HUMAN_BODY		These humans should be annotated, since their heads, shoulders and arms are visible, and they are not in the red region.
HUMAN_FACE		In this case at least one eye, half a nose, and half a mouth are clearly visible, so a box should be placed around the face. The FaceQuality should be set to "Good".
HUMAN_FACE		The face is clearly visible but is not directly facing the camera, or it is not good quality. The <b>FaceQuality</b> should be set to " <b>Medium</b> ".
HUMAN_FACE		The face is blurry either through low resolution or motion blur. The FaceQuality should be set to "Poor".
VEHICLE		This car is both equally split into both green and yellow so the color should be both Green and Yellow

## **HUMAN\_BODY**

# Description Example CORRECT! The head of this human is not in the field of view and his body is more than 80% visible so this human should be annotated. This human should be annotated, since his head, shoulders and arms are visible. **N.B:** Only include the visible portions of the person in the box. As you see on the right, the legs that are occluded by the table are CORRECT! not boxed since the legs are not visible, so this is correct. These should not be annotated since the head of the human is not in the field of view and his body is less than 80% visible.

The example on the right should not be annotated since the person's head is in the field of view and her arm(s) are not visible.



# HUMAN\_FACE

# FaceMask / MaskedFaceQuality

Definition	Example
No_Mask: There is no mask on the face of the person.	
Properly_Worn: The mask is covering both the nose and mouth.	
Not_Properly_Worn: The mask is not properly worn (the mask is not covering the nose and mouth or covering only one of them).	

## Description

## Example

#### 1 = Poor FaceQuality: poor image quality, or significant poses.

Even though the face is in the view of the camera, the face is not quite visible and blurry either through low resolution or motion blur.

- Without a face mask, the eyes, nose, or mouth have to be seen.
- With a face mask, the mask must be seen and can be covering the eye, nose or mouth. The other parts of the face not covered by the mask have to be visible.





#### 2 = Medium FaceQuality:

The face is clearly visible, but the face is not frontal, that is the face is not directly facing the camera.

- Without a face mask, the eyes, nose, or mouth have to be visible.
- With a face mask, the mask has to be visible and can be covering the eye, nose or mouth. The other face parts not covered by the mask have to be visible.











#### 3 = Good FaceQuality:

Good image quality, frontal, no occlusion. The face is clear and pointing straight at the camera. Two Eyes are clearly visible and straight to the camera

- Without a face mask, the eyes, nose, or mouth have to be visible.
- With a face mask, the mask has to be visible and can be covering the eye, nose or mouth. The other face parts not covered by the mask have to be visible.





