

# UVG - Space Correction

## Annotation Workflow

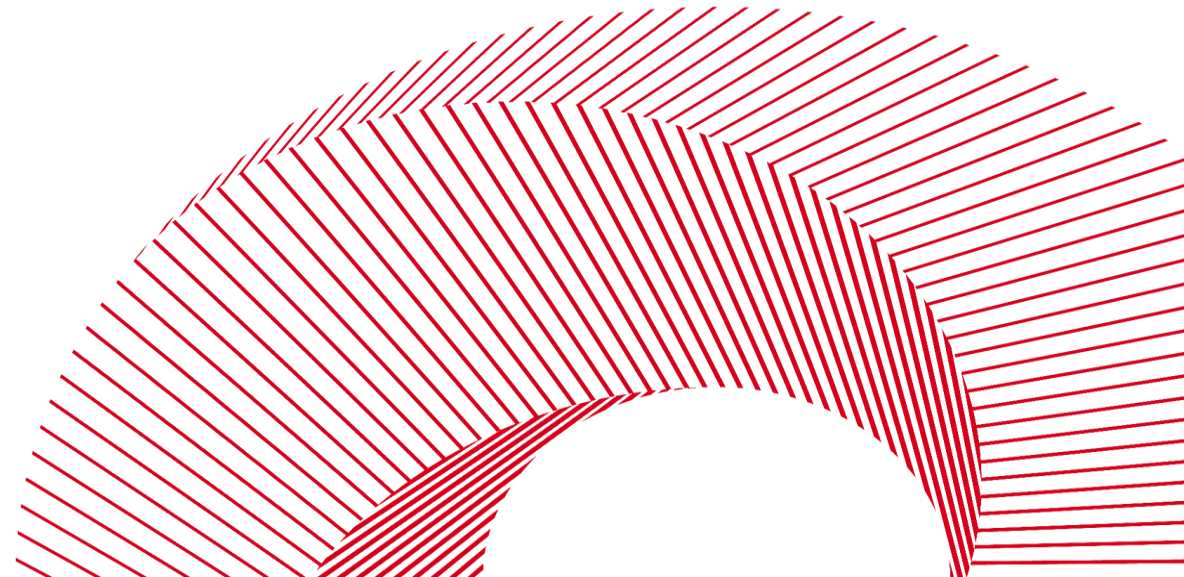
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2024 - 10 - 01

Tolga Yesil

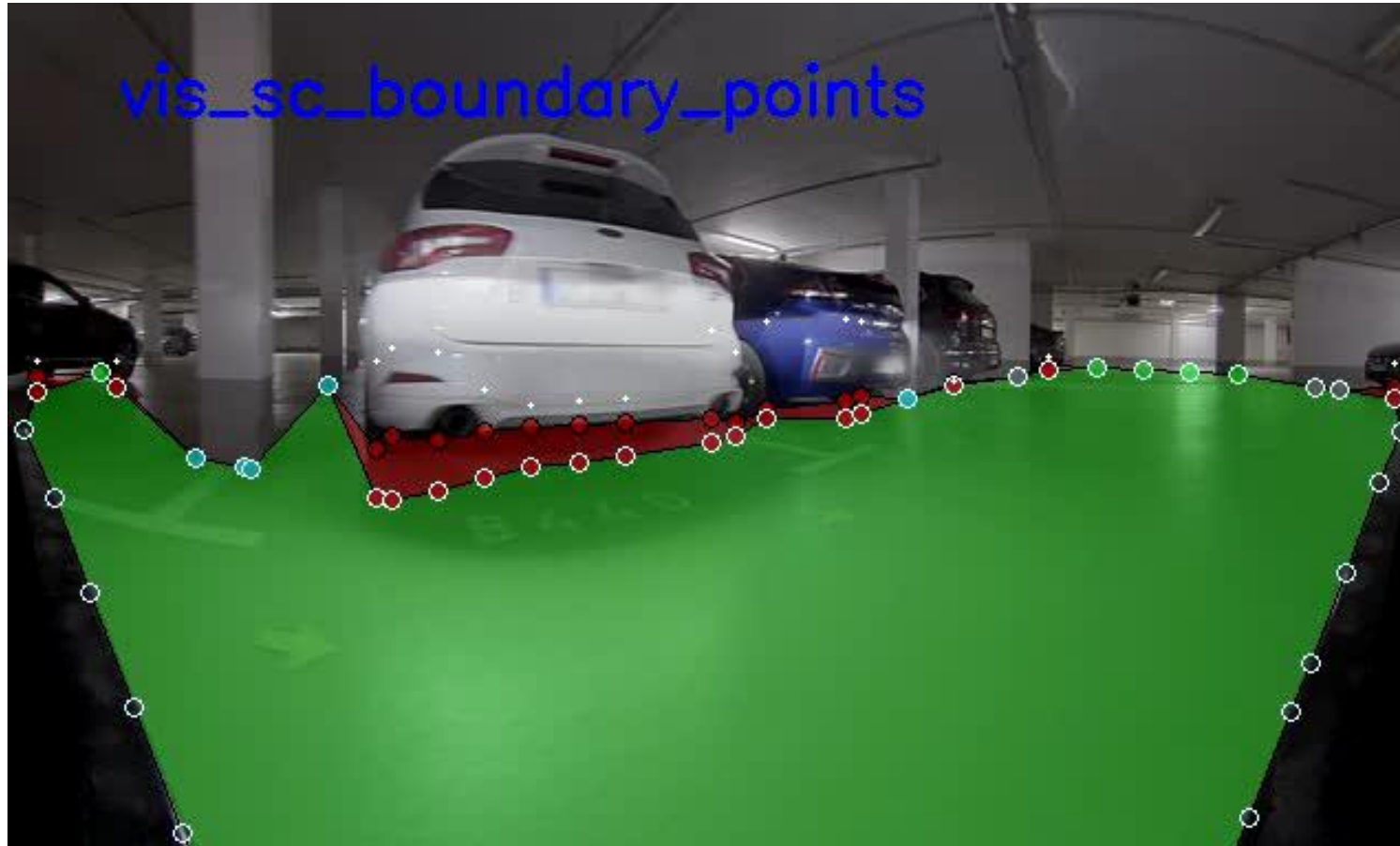
Unsupervised Vision Geometry

MTCE Camera



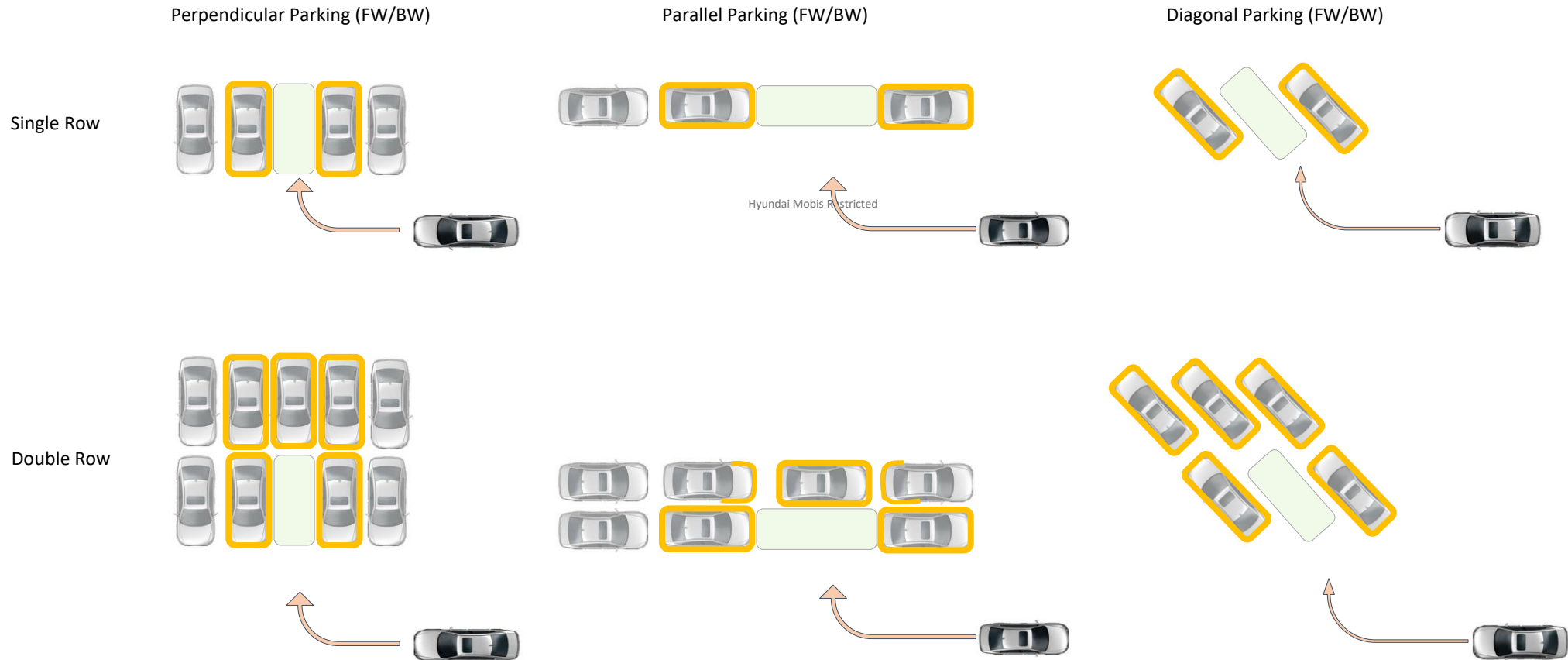
# Space Correction

Space Correction is a vision function that uses semantic and depth information to provide a geometrically correct free space boundary.



## Space Correction: Parking Maneuvers

The recording are typically based on the following parking maneuvers. Currently we are only focusing on vehicles as objects. All vehicles adjacent to the target parking area have to be annotated.



## Recording and Ground Truth Markings

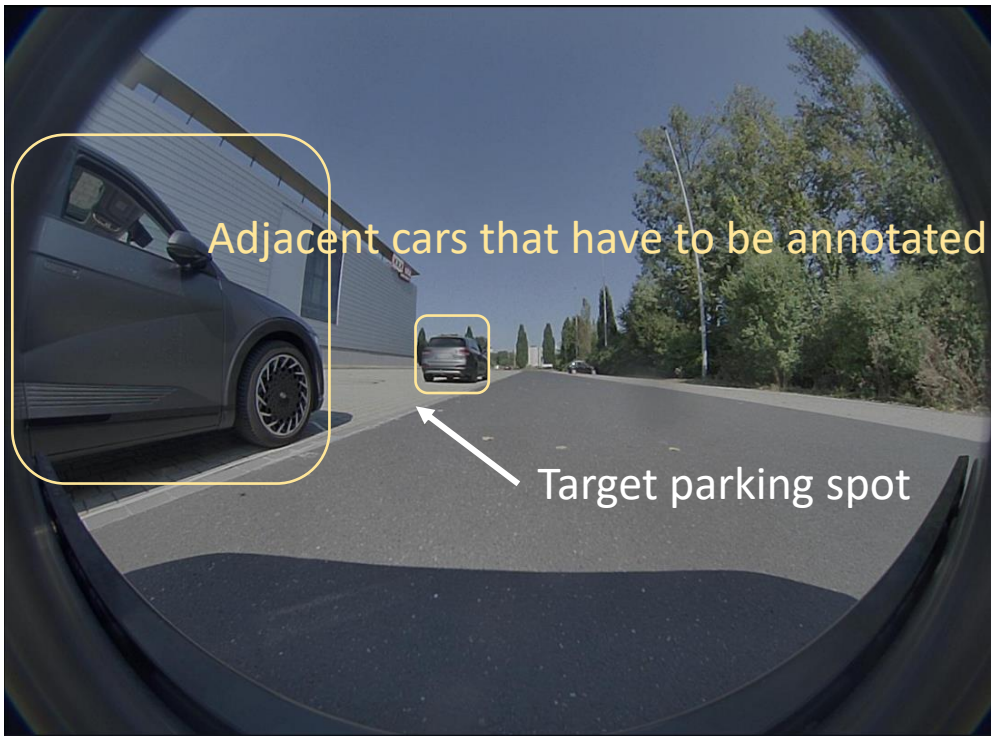
We have recorded special sequences on which the ground truth is marked on the ground.





# Annotations

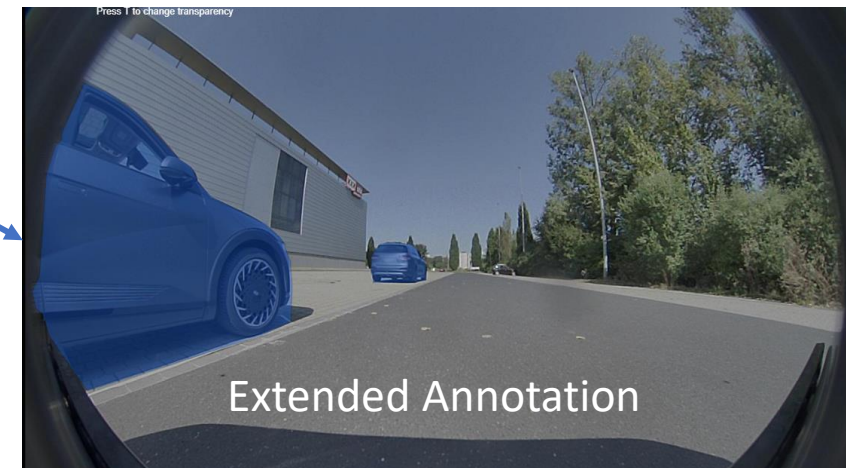
An annotation for space correction is a pair consisting of an instance and an extended annotation.



Annotation 1



Annotation 2



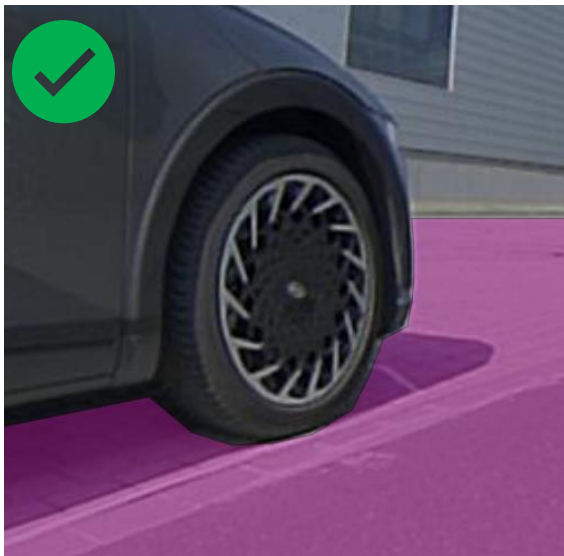
# Instance Annotation

We annotate the road and all vehicles adjacent to the parking spot.

Make sure to have clean Road-Vehicle transitions and to adjust the segmentation mask if necessary



Hyundai Mobis Restricted



# Extended Annotation

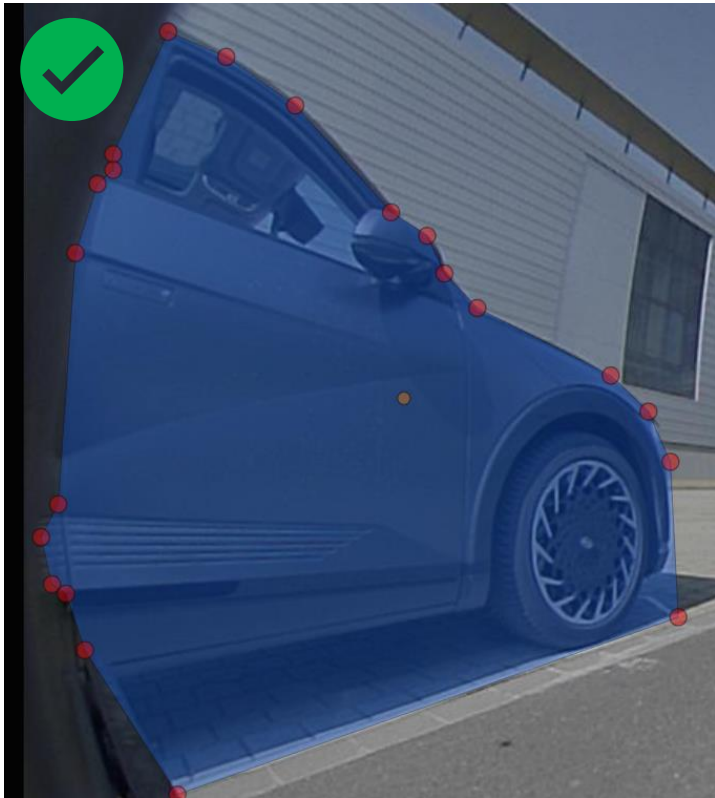
Use the marking in the recordings to annotate the extended overhanging „shadow“.

Connect the outermost part of the object (vehicle) with the marking on the road in direction of the road normal.

Always use the outline of the marking, i.e. The marked line should always be 'inside' the extended segmentation.

*TIP: Use CTRL + Doubleclick on the marking to quickly extend the instance segmentation to the desired marking*

Make sure to remove the road segmentation for this extended annotation (click on the road segmentation and press DEL). The road is only required for the Instance annotation (Annotation 1)



# Extended Annotation

If the marking is difficult to see, it can help to **view the recording in a new tab** (important, otherwise it will open the recording in the same tab).

Browsing this recording usually helps to locate and track the marking



Open in new tab!



# Annotation Tools and Storing

Use Oracle on this server [Oracle V2 \(mtcekubernetes.eu\)](https://mtcekubernetes.eu)

## Sequence Collections

Sequence Collection (20241001)	Annotator	Link
SC_Q4_2024_1_1	Xianghe	<a href="https://mtcekubernetes.eu">Oracle V2 (mtcekubernetes.eu)</a>
SC_Q4_2024_1_2	Jialei	<a href="https://mtcekubernetes.eu">Oracle V2 (mtcekubernetes.eu)</a>
SC_Q4_2024_1_3	Yichen	<a href="https://mtcekubernetes.eu">Oracle V2 (mtcekubernetes.eu)</a>
SC_Q4_2024_1_4	Ruobing	<a href="https://mtcekubernetes.eu">Oracle V2 (mtcekubernetes.eu)</a>
SC_Q4_2024_1_5	Yordan	<a href="https://mtcekubernetes.eu">Oracle V2 (mtcekubernetes.eu)</a>
SC_Q4_2024_1_6	Tolga	<a href="https://mtcekubernetes.eu">Oracle V2 (mtcekubernetes.eu)</a>
SC_Q4_2024_1_7	Dominik	<a href="https://mtcekubernetes.eu">Oracle V2 (mtcekubernetes.eu)</a>

Store your annotations under

**/m/Camera\_team/01\_team\_members/tolga/gsc\_annotations/2024\_Q4/2024\_Q4\_1/from\_<your\_name>**

And put the extracted files into the respective 'instance' and 'extended' folders (including the sequence.txt).

Thanks!