

Parking Slot Detection and Analysis

Uploaded Image



Original Image

Empty Spaces Detected: 21

Occupied Spaces Detected: 50

Detection Results

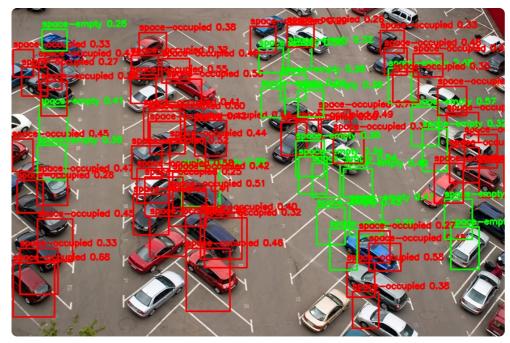
lass	Confidence	Coordinates
pace-occupied	0.70	(541, 179), (597, 226)
pace-occupied	0.68	(3, 449), (76, 545)
pace-occupied	0.64	(323, 198), (379, 261)
pace-occupied	0.63	(767, 184), (823, 237)
pace-occupied	0.62	(244, 367), (307, 438)
pace-occupied	0.60	(241, 182), (305, 238)
pace-occupied	0.58	(273, 125), (335, 171)
pace-occupied	0.58	(591, 449), (640, 510)
pace-occupied	0.58	(221, 283), (278, 344)
pace-occupied	0.55	(798, 223), (856, 282)
pace-occupied	0.55	(210, 117), (255, 168)
pace-occupied	0.52	(212, 243), (265, 301)
pace-occupied	0.51	(278, 319), (343, 385)
pace-occupied	0.50	(475, 201), (520, 260)
pace-occupied	0.49	(502, 197), (546, 258)
	ace-occupied	ace-occupied 0.70 ace-occupied 0.68 ace-occupied 0.64 ace-occupied 0.63 ace-occupied 0.62 ace-occupied 0.58 ace-occupied 0.58 ace-occupied 0.58 ace-occupied 0.55

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		Streamlit		
	Class	Confidence	Coordinates	
15	space-occupied	0.49	(824, 272), (868, 334)	
16	space-occupied	0.48	(657, 70), (697, 118)	
17	space-occupied	0.47	(45, 292), (99, 348)	
18	space-occupied	0.46	(308, 424), (385, 535)	
19	space-occupied	0.46	(630, 415), (686, 464)	
20	space-occupied	0.46	(708, 80), (760, 121)	
21	space-occupied	0.46	(265, 89), (314, 132)	
22	space-occupied	0.45	(1, 231), (38, 288)	
23	space-occupied	0.45	(46, 372), (108, 447)	
24	space-occupied	0.44	(279, 230), (342, 287)	
25	space-occupied	0.42	(244, 200), (306, 257)	
26	space-occupied	0.42	(284, 288), (359, 352)	
27	space-occupied	0.41	(233, 175), (298, 233)	
28	space-occupied	0.41	(48, 89), (89, 144)	
29	space-occupied	0.41	(215, 328), (277, 400)	
30	space-occupied	0.40	(333, 360), (406, 443)	
31	space-occupied	0.39	(751, 138), (802, 189)	
32	space-occupied	0.38	(225, 43), (273, 83)	
33	space-occupied	0.38	(601, 500), (647, 565)	
34	space-occupied	0.35	(672, 112), (717, 166)	
35	space-occupied	0.34	(567, 218), (621, 274)	
36	space-occupied	0.33	(772, 246), (824, 308)	
37	space-occupied	0.33	(3, 73), (39, 121)	
38	space-occupied	0.33	(650, 39), (692, 79)	
39	space-occupied	0.33	(15, 424), (82, 505)	
40	space-occupied	0.32	(211, 83), (259, 124)	
41	space-occupied	0.32	(340, 370), (415, 458)	
42	space-occupied	0.29	(421, 32), (466, 78)	
43	space-occupied	0.28	(10, 304), (56, 361)	
44	space-occupied	0.28	(52, 129), (98, 190)	
45	space-occupied	0.27	(18, 104), (64, 155)	
46	space-occupied	0.27	(612, 393), (667, 449)	
47	space-occupied	0.26	(745, 274), (796, 344)	
48	space-occupied	0.26	(486, 29), (533, 69)	
49	space-occupied	0.25	(235, 298), (302, 367)	

Annotated Image

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Detections

Explainability: Slot Heatmaps and Explanations

Slot [space-occupied] (541,179)-(597,226) | Confidence: 0.70



High visual complexity — likely due to vehicle presence.

Slot [space-occupied] (3,449)-(76,545) | Confidence: 0.68



consistent with occupied state.

Distinct edges and shapes —

Slot [space-occupied] (323,198)-(379,261) | Confidence: 0.64

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Streamlit

High visual complexity — likely due to vehicle presence.

Slot [space-occupied] (767,184)-(823,237) | Confidence: 0.63



Slot Crop

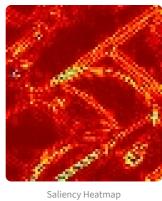


Saliency Heatmap

 $\label{eq:high-visual} \mbox{High visual complexity} - \mbox{likely} \\ \mbox{due to vehicle presence.}$

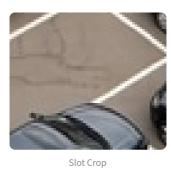
Slot [space-occupied] (244,367)-(307,438) | Confidence: 0.62





 $\label{eq:high-visual} \mbox{High visual complexity} - \mbox{likely} \\ \mbox{due to vehicle presence.}$

Slot [space-occupied] (241,182)-(305,238) | Confidence: 0.60





Distinct edges and shapes — consistent with occupied state.

Slot [space-empty] (300,281)-(367,350) | Confidence: 0.59

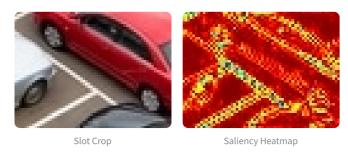
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Slot Crop Saliency Heatmap

Streamlit

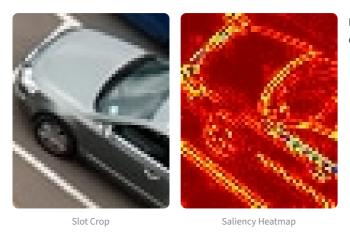
Uniform low-detail region — indicates empty space.

Slot [space-occupied] (273,125)-(335,171) | Confidence: 0.58



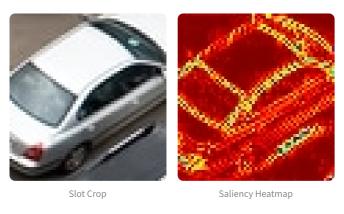
 $\label{eq:high-visual} \mbox{High visual complexity} - \mbox{likely} \\ \mbox{due to vehicle presence.}$

Slot [space-occupied] (591,449)-(640,510) | Confidence: 0.58



 $\label{eq:high-visual} \mbox{High visual complexity} - \mbox{likely} \\ \mbox{due to vehicle presence.}$

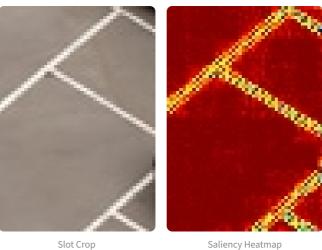
Slot [space-occupied] (221,283)-(278,344) | Confidence: 0.58



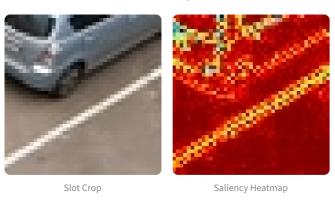
High visual complexity — likely due to vehicle presence.

Slot [space-empty] (705,174)-(753,243) | Confidence: 0.57

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Slot [space-empty] (436,70)-(479,114) | Confidence: 0.56



Slot [space-occupied] (798,223)-(856,282) | Confidence: 0.55



Slot [space-occupied] (210,117)-(255,168) | Confidence: 0.55

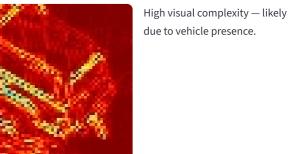


Slot [space-empty] (530,274)-(579,334) | Confidence: 0.54

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High variance; possible obstruction.

Uniform low-detail region — indicates empty space.



High visual complexity — likely due to vehicle presence.

Streamlit Streamlit Streamlit Streamlit

High variance; possible obstruction.

Slot [space-empty] (440,141)-(482,193) | Confidence: 0.54



Saliency Heatmap

Uniform low-detail region — indicates empty space.

Slot [space-occupied] (212,243)-(265,301) | Confidence: 0.52





High visual complexity — likely due to vehicle presence.

Slot [space-occupied] (278,319)-(343,385) | Confidence: 0.51





High visual complexity — likely due to vehicle presence.

Slot [space-empty] (561,389)-(609,462) | Confidence: 0.50

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Slot [space-occupied] (475,201)-(520,260) | Confidence: 0.50



due to vehicle presence.

High visual complexity — likely due to vehicle presence.

Uniform low-detail region indicates empty space.

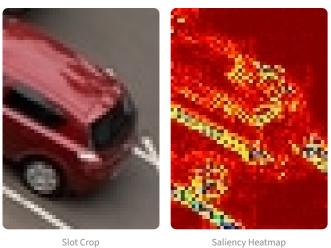
Slot [space-occupied] (502,197)-(546,258) | Confidence: 0.49



Slot [space-occupied] (824,272)-(868,334) | Confidence: 0.49

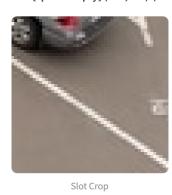
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Streamlit



High visual complexity — likely due to vehicle presence.

Slot [space-empty] (585,283)-(636,334) | Confidence: 0.49

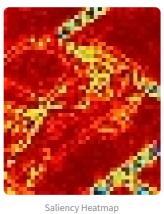




Uniform low-detail region — indicates empty space.

Slot [space-occupied] (657,70)-(697,118) | Confidence: 0.48

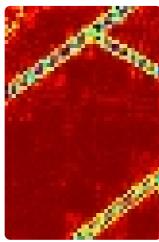




High visual complexity — likely due to vehicle presence.

Slot [space-empty] (664,106)-(705,167) | Confidence: 0.48



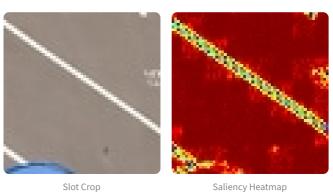


Uniform low-detail region — indicates empty space.

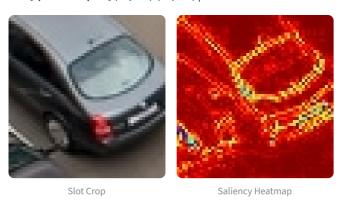
Slot Crop Saliency Heatmap

Slot [space-empty] (596,343)-(653,402) | Confidence: 0.47

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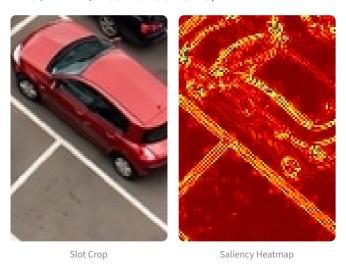
Slot [space-occupied] (45,292)-(99,348) | Confidence: 0.47



High visual complexity — likely due to vehicle presence.

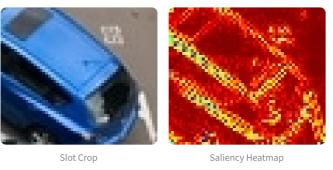
Uniform low-detail region — indicates empty space.

Slot [space-occupied] (308,424)-(385,535) | Confidence: 0.46



High visual complexity — likely due to vehicle presence.

Slot [space-occupied] (630,415)-(686,464) | Confidence: 0.46



High visual complexity — likely due to vehicle presence.

Slot [space-occupied] (708,80)-(760,121) | Confidence: 0.46

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Streamlit

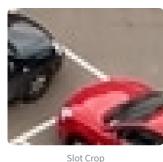


Distinct edges and shapes — consistent with occupied state.

Slot Cro

Saliency Heatmap

Slot [space-occupied] (265,89)-(314,132) | Confidence: 0.46



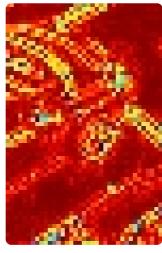


 $\label{eq:high-visual} \mbox{High visual complexity} - \mbox{likely} \\ \mbox{due to vehicle presence}.$

Stot Crop

Slot [space-occupied] (1,231)-(38,288) | Confidence: 0.45





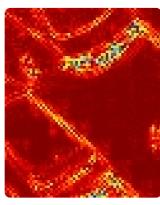
 $\label{eq:high-visual} \mbox{High visual complexity} - \mbox{likely} \\ \mbox{due to vehicle presence.}$

Slot Crop

Saliency Heatmap

Slot [space-occupied] (46,372)-(108,447) | Confidence: 0.45





Distinct edges and shapes — consistent with occupied state.

Slot Crop

Saliency Heatmap

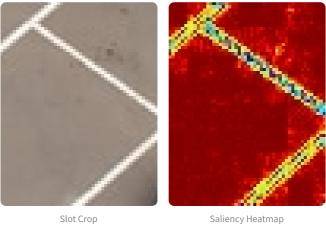
Slot [space-occupied] (279,230)-(342,287) | Confidence: 0.44

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Slot Crop Saliency Heatmap

Streamlit

Slot [space-empty] (538,352)-(588,417) | Confidence: 0.43





Slot [space-occupied] (284,288)-(359,352) | Confidence: 0.42



Slot [space-empty] (49,173)-(99,242) | Confidence: 0.41

High visual complexity — likely due to vehicle presence.

High variance; possible

obstruction.

High visual complexity — likely due to vehicle presence.

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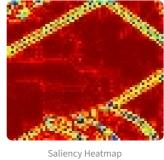
Slot Crop Saliency Heatmap

Streamlit

Uniform low-detail region indicates empty space.

Slot [space-occupied] (233,175)-(298,233) | Confidence: 0.41





 ${\bf High\ visual\ complexity-likely}$ due to vehicle presence.

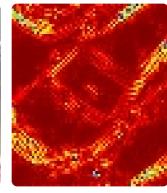




 ${\bf High\ visual\ complexity-likely}$ due to vehicle presence.

Slot [space-occupied] (215,328)-(277,400) | Confidence: 0.41





Distinct edges and shapes consistent with occupied state.

Slot Crop Saliency Heatmap

Slot [space-occupied] (333,360)-(406,443) | Confidence: 0.40

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Streamlit



Distinct edges and shapes — consistent with occupied state.

Slot Crop

Saliency Heatmap

Slot [space-occupied] (751,138)-(802,189) | Confidence: 0.39





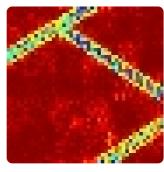
 $\label{eq:high-visual} \begin{aligned} & \text{High visual complexity} - \text{likely} \\ & \text{due to vehicle presence.} \end{aligned}$

Slot Crop

Saliency Heatmap

Slot [space-empty] (474,117)-(519,162) | Confidence: 0.39





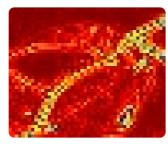
High variance; possible obstruction.

Slot Crop

Saliency Heatmap

Slot [space-occupied] (225,43)-(273,83) | Confidence: 0.38





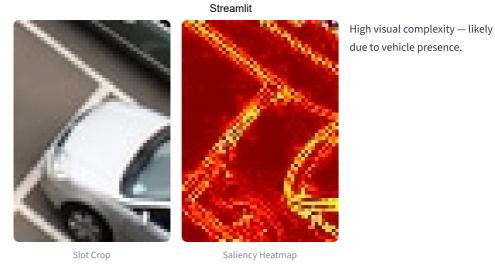
 $\label{eq:high-visual} \mbox{High visual complexity} - \mbox{likely} \\ \mbox{due to vehicle presence.}$

Slot Crop

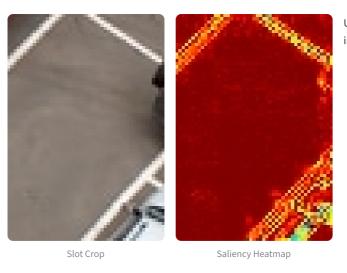
Saliency Heatmap

Slot [space-occupied] (601,500)-(647,565) | Confidence: 0.38

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Slot [space-empty] (763,337)-(812,408) | Confidence: 0.37



Uniform low-detail region indicates empty space.

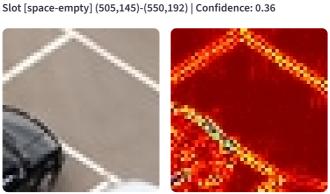
High variance; possible

obstruction.

Slot [space-empty] (774,386)-(824,461) | Confidence: 0.36







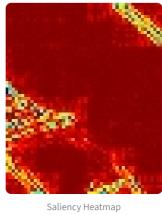
Uniform low-detail region indicates empty space.

localhost:8501 15/22 Slot Crop

Saliency Heatmap

Slot [space-empty] (46,242)-(96,303) | Confidence: 0.36



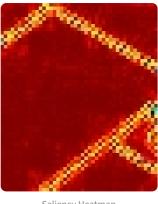


Uniform low-detail region indicates empty space.

Slot Crop

Slot [space-occupied] (672,112)-(717,166) | Confidence: 0.35





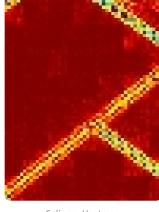
 ${\bf Distinct\ edges\ and\ shapes-}$ consistent with occupied state.

Slot Crop

Saliency Heatmap

Slot [space-empty] (506,262)-(556,328) | Confidence: 0.34





Uniform low-detail region indicates empty space.

Slot Crop

Saliency Heatmap

Slot [space-occupied] (567,218)-(621,274) | Confidence: 0.34





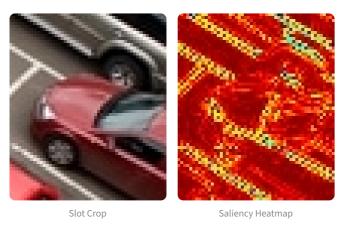
 ${\bf High\ visual\ complexity-likely}$ due to vehicle presence.

Slot Crop

Saliency Heatmap

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Slot [space-occupied] (772,246)-(824,308) | Confidence: 0.33



 $\label{eq:high-visual} \mbox{High visual complexity} - \mbox{likely} \\ \mbox{due to vehicle presence.}$

Slot [space-occupied] (3,73)-(39,121) | Confidence: 0.33



High visual complexity — likely due to vehicle presence.

Slot [space-occupied] (650,39)-(692,79) | Confidence: 0.33



Distinct edges and shapes — consistent with occupied state.

Slot [space-occupied] (15,424)-(82,505) | Confidence: 0.33

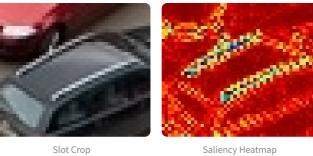


Distinct edges and shapes — consistent with occupied state.

Slot [space-occupied] (211,83)-(259,124) | Confidence: 0.32

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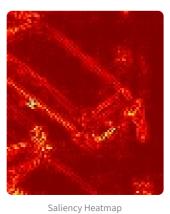
Streamlit



 ${\bf High\ visual\ complexity-likely}$ due to vehicle presence.

Slot [space-occupied] (340,370)-(415,458) | Confidence: 0.32

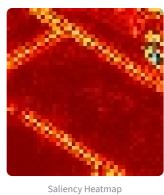




 ${\bf Distinct\ edges\ and\ shapes-}$ consistent with occupied state.

Slot [space-empty] (488,65)-(529,109) | Confidence: 0.32



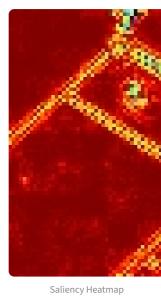


Uniform low-detail region indicates empty space.

Slot [space-empty] (724,213)-(768,288) | Confidence: 0.32



Slot Crop



Uniform low-detail region indicates empty space.

Slot [space-empty] (501,234)-(551,297) | Confidence: 0.30

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Streamlit



Uniform low-detail region — indicates empty space.

Slot [space-occupied] (421,32)-(466,78) | Confidence: 0.29



Slot Crop

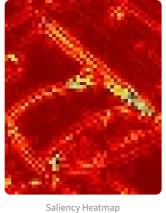
Saliency Heatmap

Saliency Heatmap

High visual complexity — likely due to vehicle presence.



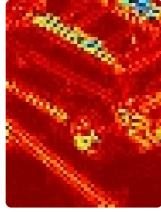




Distinct edges and shapes — consistent with occupied state.

Slot [space-occupied] (52,129)-(98,190) | Confidence: 0.28





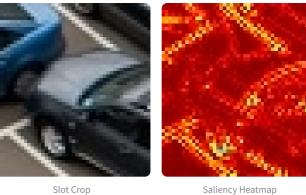
 $\label{eq:high-visual} \begin{aligned} & \text{High visual complexity} - \text{likely} \\ & \text{due to vehicle presence.} \end{aligned}$

Slot Crop Saliency Heatmap

Slot [space-occupied] (18,104)-(64,155) | Confidence: 0.27

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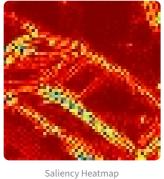
Streamlit



 $\label{eq:high-visual} \begin{aligned} & \text{High visual complexity} - \text{likely} \\ & \text{due to vehicle presence.} \end{aligned}$

Slot [space-occupied] (612,393)-(667,449) | Confidence: 0.27





High visual complexity — likely due to vehicle presence.

Slot [space-occupied] (745,274)-(796,344) | Confidence: 0.26

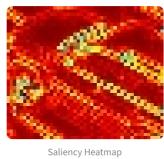




High visual complexity — likely due to vehicle presence.

Slot [space-occupied] (486,29)-(533,69) | Confidence: 0.26





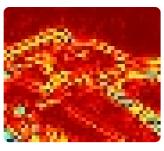
High visual complexity — likely due to vehicle presence.

Slot [space-empty] (54,37)-(98,75) | Confidence: 0.26

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Streamlit





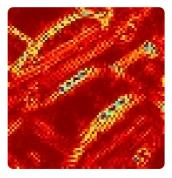
High variance; possible obstruction.

Slot Crop

Saliency Heatmap

Slot [space-occupied] (235,298)-(302,367) | Confidence: 0.25





 $\label{eq:high-visual} \begin{aligned} & \text{High visual complexity} - \text{likely} \\ & \text{due to vehicle presence.} \end{aligned}$

Slot Crop

Saliency Heatmap

Summary Table



	Class	Вох	Confidence	Density	Explanation
15	space-empty	(440,141)-(482,193)	0.535	9.77	Uniform low-detail region — indicates empt
16	space-occupied	(212,243)-(265,301)	0.524	20.66	High visual complexity — likely due to vehic
17	space-occupied	(278,319)-(343,385)	0.514	21.03	High visual complexity — likely due to vehic
18	space-empty	(561,389)-(609,462)	0.498	18.19	Uniform low-detail region — indicates empt
19	space-occupied	(475,201)-(520,260)	0.495	28.29	High visual complexity — likely due to vehic
20	space-occupied	(502,197)-(546,258)	0.492	23.36	High visual complexity — likely due to vehic
21	space-occupied	(824,272)-(868,334)	0.489	26.47	High visual complexity — likely due to vehic
22	space-empty	(585,283)-(636,334)	0.486	11.5	Uniform low-detail region — indicates empty
23	space-occupied	(657,70)-(697,118)	0.484	32.18	High visual complexity — likely due to vehic
24	space-empty	(664,106)-(705,167)	0.481	19.96	Uniform low-detail region — indicates empt

SAM Masked Image

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SAM Masking

Highlighted Masked Regions



Highlighted SAM Regions

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