

Scene Understanding



1. Scene Description

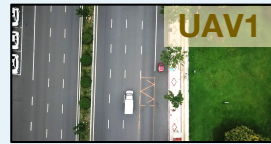
Q: What is the dominant environmental feature in UAV1's view?

A: A urban road with a green grassy area.



2. Scene Comparison

Q: Which UAV perspective has more vehicles? A: UAV2.



5 cars



13 cars



3. Observing Posture

Q: Which perspective is closer to the ground?

A: UAV1 is closer with a clearer view.



perception area



data link

How to enhance my perception?

Object Understanding



4. Object Recognition

Q: How many types of objects are there? A: 2 types.



5. Object Counting

Q: How many vehicles are visible on the road? A: 5 cars.



6. Object Grounding

Q: Where is the white van?

A: The white van is in a different lane behind the red car.



7. Object Matching

Q: Which object in UAV2 is the person standing near the traffic light in UAV1? A: The person in white standing by the red-and-white sidewalk edge in UAV2.

Perception Assessment



8. Quality Assessment

Q: How would you rate the overall image quality?

A: Good with minor blur.



9. Usability Assessment

Q: Is this image usable for object detection tasks?

A: Moderately usable with some occlusions.



10. Causal Assessment

Q: What is the main factor that affects the object detection performance of this image?

A: Partial occlusion by trees.



occluded red car

Collaborative Decision



11. When to Collaborate

Q: Should UAV2 communicate with others for more info now?

A: Yes.



12. What to Collaborate

Q: What info should UAV1 share with UAV2?

A: Details of the red car's position and movement.



13. Who to Collaborate

Q: Which UAV should UAV2 collaborate with?

A: UAV1.



14. Why to Collaborate

Q: Why should UAV2 collaborate with UAV1?

A: To overcome partial occlusion of the red car.