Query: car Informative to the query Q1: where is the road? 0.8 0.6 0.4 0.2 Road House Sky Human Informative to the scene 8.0 0.6 0.4 voting from road detector road detector result 0.2 Road House Sky Human Q2: where is the house? search area for car voting from house detector search area for car house detector result STOP Incorporating context 0.5 Car Plane Car Plane Car detected! car detection result final search area for car Intersection of voting maps