

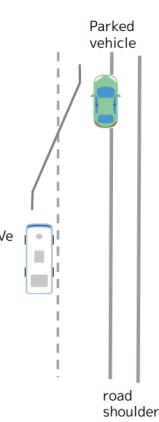
Sharing Road Test for Autoware release/2023.09 branch -- Test Case 8 #4672

cyn-liu started this conversation in Show and tell

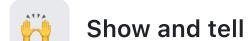

cyn-liu on Apr 30
Maintainer

Hello everyone. I'm delighted to share with you the results of our road testing of the release/2023.09 branch of Autoware for autonomous driving.

1. Test Case

<p>UC-23-001-0003</p> <ul style="list-style-type: none"> Initial position : EGO is running in the leftlane EGO changes to the right lane After starting the lane change maneuver, EGO detects the parked vehicle and tries to avoid it 	<p>Initial condition</p> <ul style="list-style-type: none"> EGO is running at V_e in the left lane. There's a road shoulder to the right There's a parked vehicle on the road shoulder <p>Action</p> <ul style="list-style-type: none"> After starting to change lane to the right, EGO detects the parked vehicle and avoids it (obstacle avoidance during lane changing) <p>Success condition</p> <ul style="list-style-type: none"> EGO reaches the destination <p>Failure condition</p> <ul style="list-style-type: none"> EGO collides with the parked vehicle 	<p>$V_e: [30,50]$ km/h</p> <p>$D: [40,50]$ m</p> <p>Total 4 patterns</p> 
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Category



Labels

component:planning

4 participants



2. Test Facility

2.1 Ego Vehicle

Item	Description
Vehicle	BYD EV (with DBW)
Computing Platform	ADLINK MVP-6100 IPC (run sensing, localization, perception, system, vehicle etc module) Dell Precision 3561(run planning and control module)
LiDAR	1x Ouster (OS1-64)

2.2 Test Yard Elements

- Multiple Lanes
- Road Shoulder
- Road Boundary
- Dash line and solid line

- Median strip



2.3 Standard Scenarios

For safety reasons, only the Ve values of [10, 30] km/h are tested during road testing.

2.3.1 $Ve=10\text{km/h}$, $D=50\text{m}$

After starting to change lane to the right EGO detect the parked vehicle and avoid it.





2.3.2 $V_e=30\text{km/h}$, $D=40\text{m}$

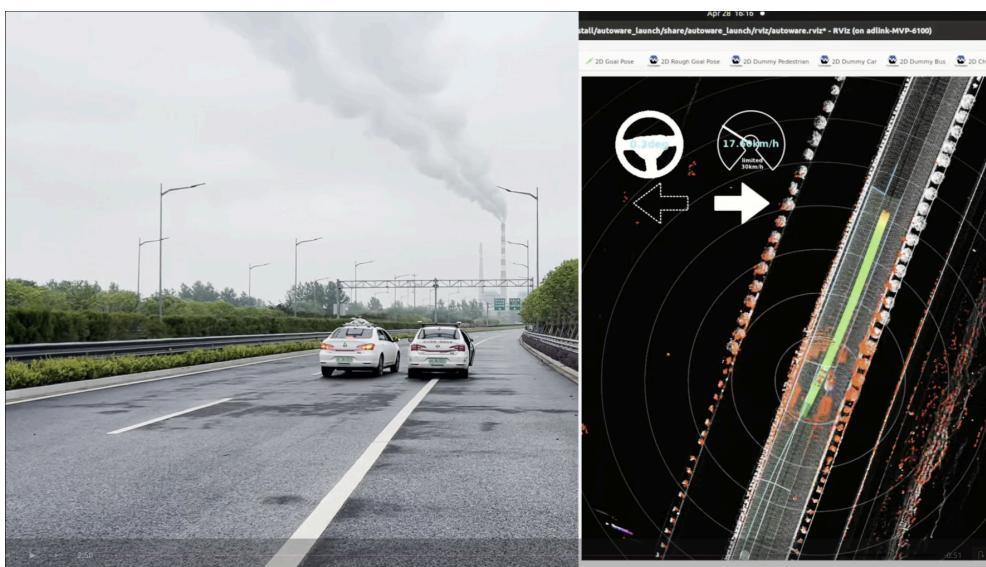
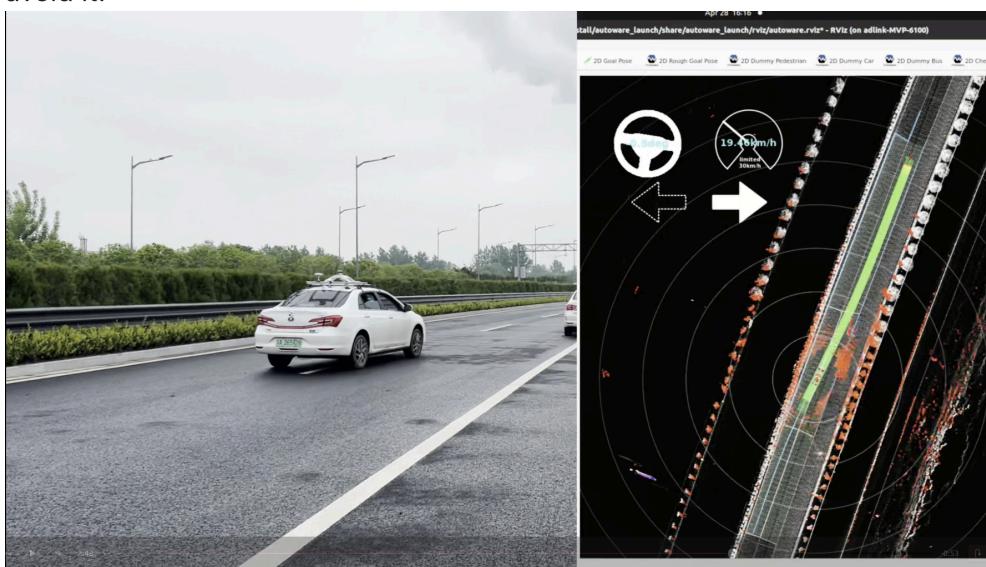
After starting to change lane to the right EGO detect the parked vehicle and avoid it.

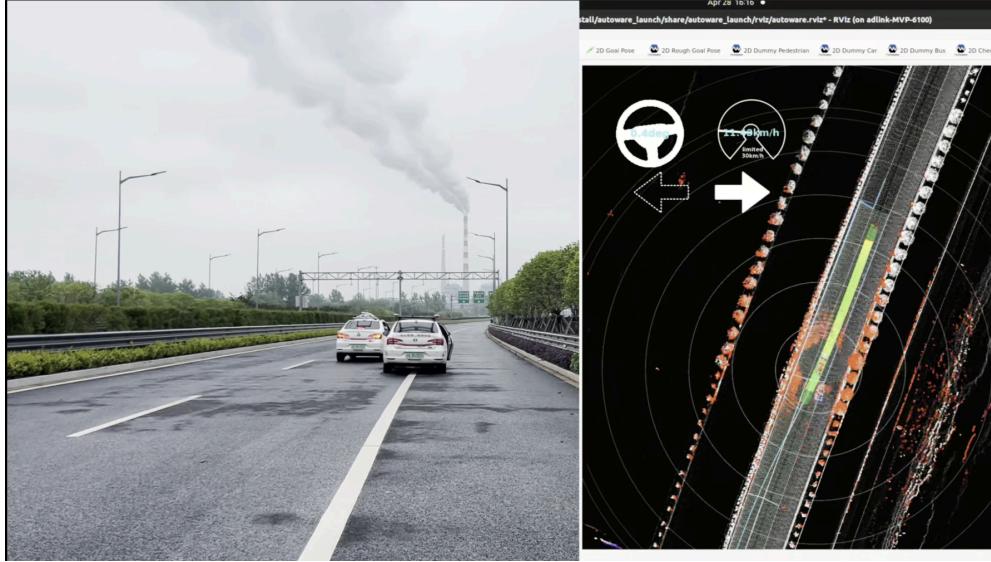




2.3.3 $V_e=30\text{km}/\text{h}$, $D=50\text{m}$

After starting to change lane to the right EGO detect the parked vehicle and avoid it.





3. Test Outcome

Item	Description
Test Conditions	<ol style="list-style-type: none"> In initial condition, EGO distance from parked vehicle 50m, EGO reaches the destination at a speed 10km/h. In initial condition, EGO distance from parked vehicle 40m, EGO reaches the destination at a speed 30km/h. In initial condition, EGO distance from parked vehicle 50m, EGO reaches the destination at a speed 30km/h.
Test Progress	In all 3 test conditions mentioned above, EGO detects the parked vehicle and avoids it, finally reaches the destination.
Test Video	<i>PS: The road test video will be shared in the future</i>

↑ 3

3 comments · 3 replies

Oldest

Newest

Top



shulanbushangshu on May 15 Collaborator

@zulfaqar-azmi-t4

When the car changes lane and moves near the obstacle vehicle, it starts to slow down to about 5km/h. After moving through the obstacle vehicle, the speed remains at 5km/h and moves to the end point . The terminal print indicates that the automatic driving mode cannot be received. Need to confirm whether the performance is normal

↑ 1

2 replies



mitsudome-r on May 15 Maintainer

It could be due to obstacle cruise planner making the vehicle to slow down:

https://autowarefoundation.github.io/autoware.universe/main/planning/_obstacle_cruise_planner/

Also, do you have any rosbag? It might help us diagnose if you have recordings of the following topics:

- sensor data
- tf
- /planning/scenario_planning/trajectory
- /planning/scenario_planning/lane_driving/behavior_planning/path
- /planning/scenario_planning/lane_driving/behavior_planning/path_with_lane_id



cyn-liu on Sep 30

Maintainer

Author

edited ▾

Recently, we conducted another test on this test case and found that using new code(release/2024.07 branch) did not reproduce the original problem, and the test was successfully completed.

PS: The test video will be shared soon.



felixf4xu on Oct 2

I'm curious, what's the targeting testing module, avoidance_by_lane_change_module? side_shift_module? or static_obstacle_avoidance_module?

Those kind of modules can be enabled/disabled by settings, what's your settings?

↑ 1

1 reply



shulanbushangs... on Oct 7

Collaborator

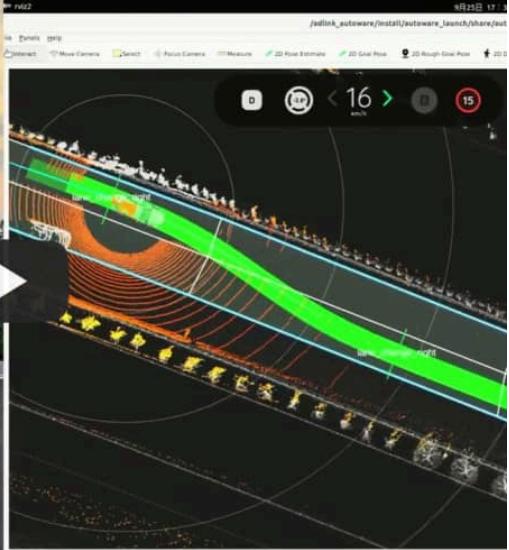
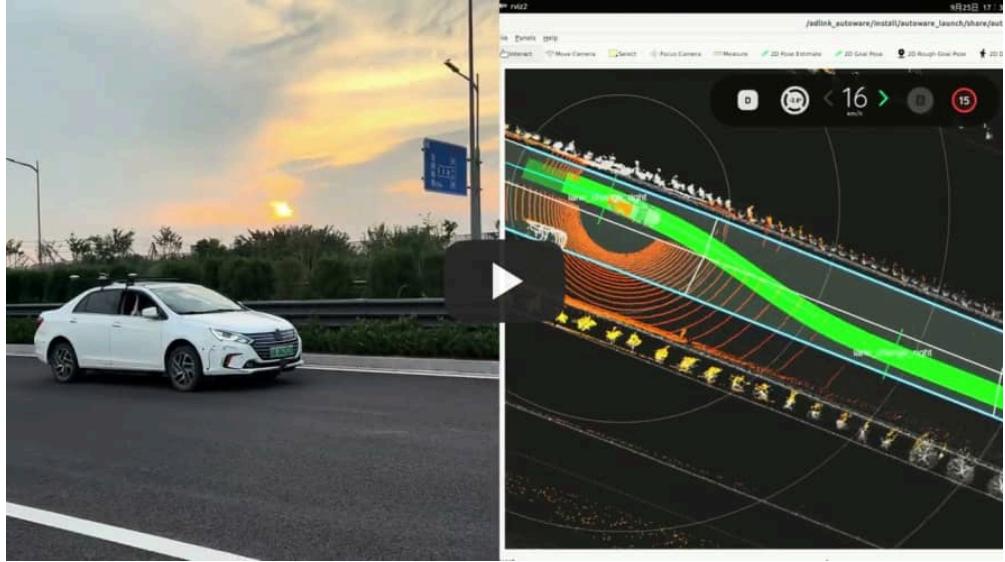
As stated in the test task, there are obstacles when changing lanes, and obstacles need to be avoided In the road test,it used the default parameters



cyn-liu on Oct 8

Maintainer

Author



↑ 1

0 replies