Ego Vehicle Stuck on Planning Stage #3432

Closed **Unanswered** **MarioAlmelaUMH** asked this question in **Q&A**

MarioAlmelaUMH on Apr 14, 2023 · edited ▾

Hello, I've been trying to run Autoware as shown in the installation guide. I can input a 2D Goal correctly, but the ego vehicle remains stuck on Planning Stage, without ever engaging.

Apparently, the vehicle plans part of the way correctly, but comes to a sudden stop, marked red in the trajectory preview. Additionally, the log obtained from the console is the following:

Category

🙏 Q&A

Labels

None yet

2 participants

[system_error_monitor-21] [ERROR] [1681477470.405202187] [system_error_monitor /autoware/planning/performance_monitoring/trajectory_validation]: [Single Point Fault]: Stale
[system_error_monitor-21] [ERROR] [1681477470.405244454] [system_error_monitor /autoware/planning/performance_monitoring/trajectory_validation/trajectory_ curvature_validation/planning_error_monitor: trajectory_curvature_validation]: [Single Point Fault]: This trajectory's curvature is within the expected range
[system_error_monitor-21] [ERROR] [1681477470.405257889] [system_error_monitor /autoware/planning/performance_monitoring/trajectory_validation/trajectory_ point_validation/planning_error_monitor: trajectory_point_validation]: [Single Point Fault]: This Trajectory doesn't have any invalid values
[system_error_monitor-21] [ERROR] [1681477470.405268400] [system_error_monitor /autoware/planning/performance_monitoring/trajectory_validation/trajectory_ interval_validation/planning_error_monitor: trajectory_interval_validation]: [Single Point Fault]: Trajectory Interval Length is within the expected range
[system_error_monitor-21] [ERROR] [1681477470.405277809] [system_error_monitor /autoware/planning/performance_monitoring/trajectory_validation/trajectory_ relative_angle_validation/planning_error_monitor: trajectory_relative_angle_validation]: [Single Point Fault]: This trajectory's relative angle is within the expected range
[component_container_mt-64] [INFO] [1681477470.414272572] [planning.scenario_planning.lane_driving.motion_planning.obstacle_avoidan ce_planner]: Replan with resetting optimization since valid nearest trajectory point from ego was not found.
[component_container-43] [pcl::KdTreeFLANN::setInputCloud] Cannot create a KDTree with an empty input cloud!
[component_container-43] [pcl::KdTreeFLANN::setInputCloud] Cannot create a KDTree with an empty input cloud!
[carla_pointcloud_node-1] CARLA CARLA >>>> Received Cloud : 0x7f5a94029e40, Converted:
[component_container-67] [ERROR] [1681477472.544833715] [control.trajectory_follower.controller_node_exe]: [Emergency stop] vel: 0.000, acc: -5.000
[component_container-43] [pcl::KdTreeFLANN::setInputCloud] Cannot create a KDTree with an empty input cloud!
[carla_pointcloud_node-1] CARLA CARLA >>>> Received Cloud : 0x7f5a94029e40, Converted:
[component_container-67] [INFO] [1681477473.921484725] [control.operation_mode_transition_manager]: Engage unavailable: closest point not found
[component_container_mt-64] [INFO] [1681477473.930000145] [planning.scenario_planning.lane_driving.motion_planning.obstacle_avoidan ce_planner]: Replan with resetting optimization since valid nearest trajectory point from ego was not found.
[component_container-43] [pcl::KdTreeFLANN::setInputCloud] Cannot create a KDTree with an empty input cloud!
[carla_pointcloud_node-1] CARLA CARLA >>>> Received Cloud :

0x7f5a94029e40, Converted:
[component_container-43] [pcl::KdTreeFLANN::setInputCloud] Cannot create a KDTree with an empty input cloud!
[carla_pointcloud_node-1] CARLA CARLA >>>> Received Cloud : 0x7f5a94029e40, Converted:
[component_container-43] [pcl::KdTreeFLANN::setInputCloud] Cannot create a KDTree with an empty input cloud!
[lidar_centerpoint_node-47] [WARN] [1681477477.257861893] [lidar_centerpoint]: No detected boxes.
[component_container-67] [INFO] [1681477477.274596408] [control.operation_mode_transition_manager]: Engage unavailable: closest point not found

I am using Ubuntu 20 with ROS 2 Galactic, and I'm connecting the CARLA simulator to Autoware by the Zatitech Openplanner bridge.
Is it PCL related, bridge related or Autoware related? I would appreciate any help to solve this issue. Thanks in advance.

↑ 1

2 comments · 2 replies

| Oldest | Newest | Top |

maxime-clem on Apr 16, 2023   Collaborator

> [component_container-67] [INFO] [1681477473.921484725]
> [control.operation_mode_transition_manager]: Engage unavailable:
> closest point not found

This seems to be the issue and I believe it is caused by the vehicle being oriented perpendicular to the trajectory.
To find the current point along the trajectory, a limit on the yaw deviation is used. In the scene shown in your screenshot, it is normal that the vehicle cannot engage.

Please make sure that localization outputs a correct orientation and that the sensor calibration is correct (the orientation of the lidar may be off by 90 degrees).

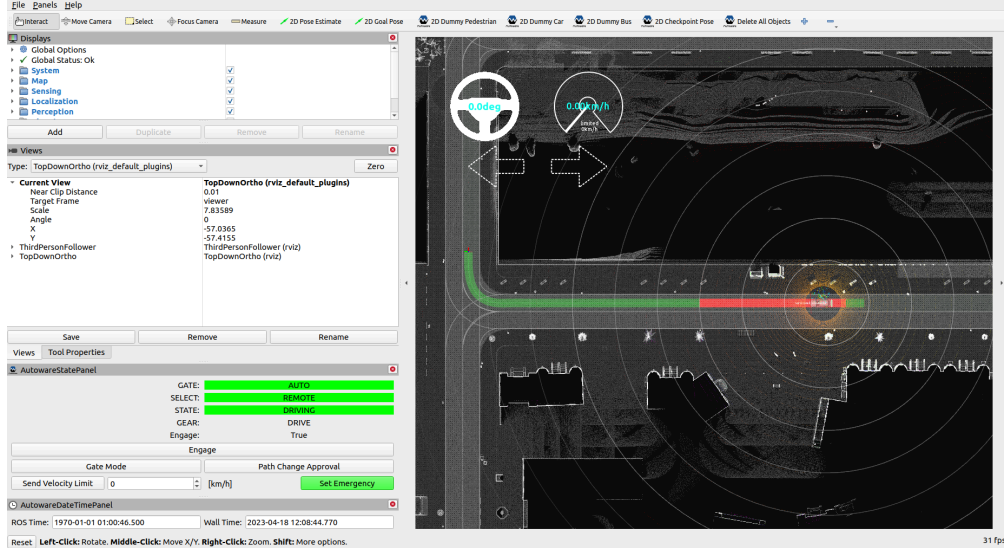↑ 1   0 replies

MarioAlmelaUMH on Apr 18, 2023   Author

Thank you for your answer. I've been able to solve the planning issue.
However, now the car is stuck on the Driving state, without moving at all.

File Panels Help

Interact | Move Camera | Select | Focus Camera | Measure | 2D Pose Estimate | 2D Goal Pose | 2D Dummy Pedestrian | 2D Dummy Car | 2D Dummy Bus | 2D Checkpoint Pose | Delete All Objects

Displays
- Global Options
- ✓ Global Status: Ok
- System
- Map
- Sensing
- Localization
- Perception

Add | Duplicate | Remove | Rename

Views

Type: TopDownOrtho (rviz_default_plugins) | Zero

Current View	TopDownOrtho (rviz_default_plugins)
Near Clip Distance	0.01
Target Frame	viewer
Scale	7.83589
Angle	0
X	-57.0365
Y	-57.4155
ThirdPersonFollower	ThirdPersonFollower (rviz)
TopDownOrtho	TopDownOrtho (rviz)

Save | Remove | Rename

Views | Tool Properties

AutowareStatePanel

GATE:	AUTO
SELECT:	REMOTE
STATE:	DRIVING
GEAR:	DRIVE
Engage:	True

Engage

Gate Mode | Path Change Approval

Send Velocity Limit | 0 | [km/h] | Set Emergency

AutowareDateTimePanel

ROS Time: 1970-01-01 01:00:46.500   Wall Time: 2023-04-18 12:08:44.770

Reset | **Left-Click:** Rotate. **Middle-Click:** Move X/Y. **Right-Click:** Zoom. **Shift:** More options.

31 fps

0.0deg   0.00km/h

The console feed is as follows:

[system_error_monitor-21] [ERROR] [1681813313.271185302] [system_error_monitor /autoware/control/autonomous_driving/node_alive_monitoring]: [Single Point Fault]: Stale
[system_error_monitor-21] [ERROR] [1681813313.271231314] [system_error_monitor /autoware/control/autonomous_driving/node_alive_monitoring/topic_status/topic_state_monitor_control_command_control_cmd: control_topic_status]: [Single Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271288988] [system_error_monitor /autoware/control/autonomous_driving/node_alive_monitoring/topic_status/topic_state_monitor_trajectory_follower_control_cmd: control_topic_status]: [Single Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271309976] [system_error_monitor /autoware/localization/node_alive_monitoring]: [Single Point Fault]: Stale
[system_error_monitor-21] [ERROR] [1681813313.271324929] [system_error_monitor /autoware/localization/node_alive_monitoring/topic_status/topic_state_monitor_initialpose3d: localization_topic_status]: [Single Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271340615] [system_error_monitor /autoware/localization/node_alive_monitoring/topic_status/topic_state_monitor_pose_twist_fusion_filter_pose: localization_topic_status]: [Single Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271354164] [system_error_monitor /autoware/localization/node_alive_monitoring/topic_status/topic_state_monitor_transform_map_to_base_link: localization_topic_status]: [Single Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271368169] [system_error_monitor /autoware/localization/performance_monitoring/localization_accuracy]: [Single Point Fault]: Stale
[system_error_monitor-21] [ERROR] [1681813313.271382727] [system_error_monitor /autoware/localization/performance_monitoring/localization_accuracy/localization_error_monitor: localization_accuracy]: [Single Point Fault]: ellipse size is within the expected range
[system_error_monitor-21] [ERROR] [1681813313.271397131] [system_error_monitor /autoware/localization/performance_monitoring/localization_accuracy/localization_error_monitor: localization_accuracy_lateral_direction]: [Single Point Fault]: ellipse size along lateral direction is within the expected range
[system_error_monitor-21] [ERROR] [1681813313.271413367] [system_error_monitor /autoware/map/node_alive_monitoring]: [Single Point Fault]: Stale
[system_error_monitor-21] [ERROR] [1681813313.271429396] [system_error_monitor /autoware/map/node_alive_monitoring/topic_status/topic_state_monitor_pointcloud_map: map_topic_status]: [Single Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271439422]

[system_error_monitor
/autoware/map/node_alive_monitoring/topic_status/topic_state_monitor_vec
tor_map: map_topic_status]: [Single Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271450776]
[system_error_monitor /autoware/perception/node_alive_monitoring]: [Single
Point Fault]: Stale
[system_error_monitor-21] [ERROR] [1681813313.271460244]
[system_error_monitor
/autoware/perception/node_alive_monitoring/topic_status/topic_state_monit
or_object_recognition_objects: perception_topic_status]: [Single Point
Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271469597]
[system_error_monitor
/autoware/perception/node_alive_monitoring/topic_status/topic_state_monit
or_obstacle_segmentation_pointcloud: perception_topic_status]: [Single
Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271478462]
[system_error_monitor /autoware/planning/node_alive_monitoring]: [Single
Point Fault]: Stale
[system_error_monitor-21] [ERROR] [1681813313.271487355]
[system_error_monitor
/autoware/planning/node_alive_monitoring/topic_status/topic_state_monitor_
mission_planning_route: planning_topic_status]: [Single Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271496638]
[system_error_monitor
/autoware/planning/node_alive_monitoring/topic_status/topic_state_monitor_
scenario_planning_trajectory: planning_topic_status]: [Single Point Fault]:
OK
[system_error_monitor-21] [ERROR] [1681813313.271506140]
[system_error_monitor /autoware/system/node_alive_monitoring]: [Single
Point Fault]: Stale
[system_error_monitor-21] [ERROR] [1681813313.271515238]
[system_error_monitor
/autoware/system/node_alive_monitoring/topic_status/topic_state_monitor_s
ystem_emergency_control_cmd: system_topic_status]: [Single Point Fault]:
OK
[system_error_monitor-21] [ERROR] [1681813313.271524322]
[system_error_monitor /autoware/vehicle/node_alive_monitoring]: [Single
Point Fault]: Stale
[system_error_monitor-21] [ERROR] [1681813313.271532725]
[system_error_monitor
/autoware/vehicle/node_alive_monitoring/topic_status/topic_state_monitor_v
ehicle_status_steering_status: vehicle_topic_status]: [Single Point Fault]: OK
[system_error_monitor-21] [ERROR] [1681813313.271541760]
[system_error_monitor
/autoware/vehicle/node_alive_monitoring/topic_status/topic_state_monitor_v
ehicle_status_velocity_status: vehicle_topic_status]: [Single Point Fault]: OK

Apparently, many nodes are becoming stale, but I don't know why.

Thanks in advance.

↑ 1   2 replies

maxime-clem on Apr 18, 2023 · Collaborator

From the rviz screenshot it looks like a `surround obstacle` is blocking Autoware from moving. This can be seen from the "virtual wall" and from the red trajectory (red = velocity of 0m/s).
I guess some pointcloud point is detected very close to the ego vehicle.

MarioAlmelaUMH on Apr 21, 2023 · Author

Thank for your answer. I've since then been able to make the vehicle move.