

Description of ROS Nodes

Package	Node	Description	Subscribe to	Publish to
joystick	joystick_ros2	- Connect to the xbox360 controller - Read data (axis, buttons..) from the controller		/joy
	joystick_to_cmd_node	-Interpret/Convert joystick and buttons values into car orders (throttle, steering, manual/auto ...)	/joy	/manual_car_control /car_mode
car_control	car_control_node	-Control the car : Calculate and send motors order (in percent of PWM) to move the car	/manual_car_control /motors_feedback /steering_calibration /car_mode	/motors_order /steering_calibration
can	can_rx_node	-Read and transform data from CAN bus		/us_data /imu/data_raw /imu/mag /gnss_data /motors_feedback /general_data /steering_calibration
	can_tx_node	-Transform and send data to CAN bus	/motors_order /steering_calibration	
simulation	simulation_node	-Send data (pwm ...) to carla_simulator	/motors_order /motors_feedback (only for demo)	/carla/ego_vehicle/ vehicle_control_cmd
imu_filter_madgwick	imu_filter_madgwick_node or imu_complementary_filter	-Convert IMU data into quaternions	/imu/data_raw /imu/mag	/imu/data
rplidar_ros	rplidar_ros	-Read data from the LIDAR		/scan
usb_cam	usb_cam_node_exe	-Read data from the camera		/image_raw

Sources :

- joystick_ros2 : https://github.com/FurqanHabibi/joystick_ros2
- imu_filter_madgwick : http://wiki.ros.org/imu_complementary_filter
- rplidar_ros : https://github.com/babakhani/rplidar_ros2/tree/ros2/
- usb_cam : http://wiki.ros.org/usb_cam