比邻星科技

Mobile Robot Application Development Platform

This product uses mobile robots as the carrier and is equipped with various sensors such as vision, LiDAR, voice, motion, and ultrasonic, enabling the robot to have multiple functions including environmental perception, path planning, and intelligent control. By applying and operating this system, students can master relevant knowledge and practical methods in areas such as robot motion control, posture control, sensor perception, and autonomous decision-making.

ROS operating system

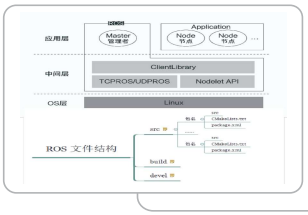
Mobile robot control

Sensor technology

Product Features

1. Install the ROS operating system, Support the motion control, map building, autonomous navigation, and other operations for mobile robots;
2. Provide a visual perception system that can complete the recognition of various traffic signs such as turning left, turning right, going straight, stopping, and pedestrian crossings;
3. Provide a voice control module that allows for custom voice commands to control the robot to perform corresponding actions based on the content of the commands;
4. Built-in ultrasonic sensors, motion sensors, temperature and humidity sensors, and various other sensors can perceive and output environmental information.

Product function

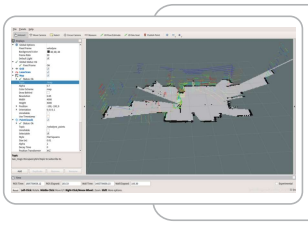


The ROS robot operating system

ROS system provides system-level services including hardware abstraction and underlying device control, which can provide highly open and extended support for robot application and development.

Mobile robot attitude control

Built-in gyroscope, accelerometer, etc, can collect real-time data on the robot's speed, position, as well as heading angle, pitch angle, and other attitude data, and based on this, achieve real-time monitoring and adjustment of its own state.

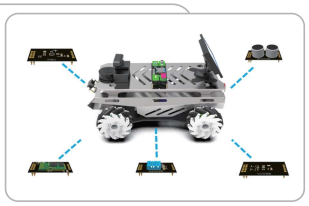


Laser SLAM mapping and navigation

Using high-precision lidar, through the laser ranging of 8,000 times per second, for the robot to perceive the environment within a radius of 12 meters, so as to build real -time and accurate map basic data.

Multi-sensor environmental perception

Deploy various perception units such as visual, voice, ultrasonic, and motion sensors to build a comprehensive multi-source information processing system, achieving all-around perception of both the robot itself and the environment.



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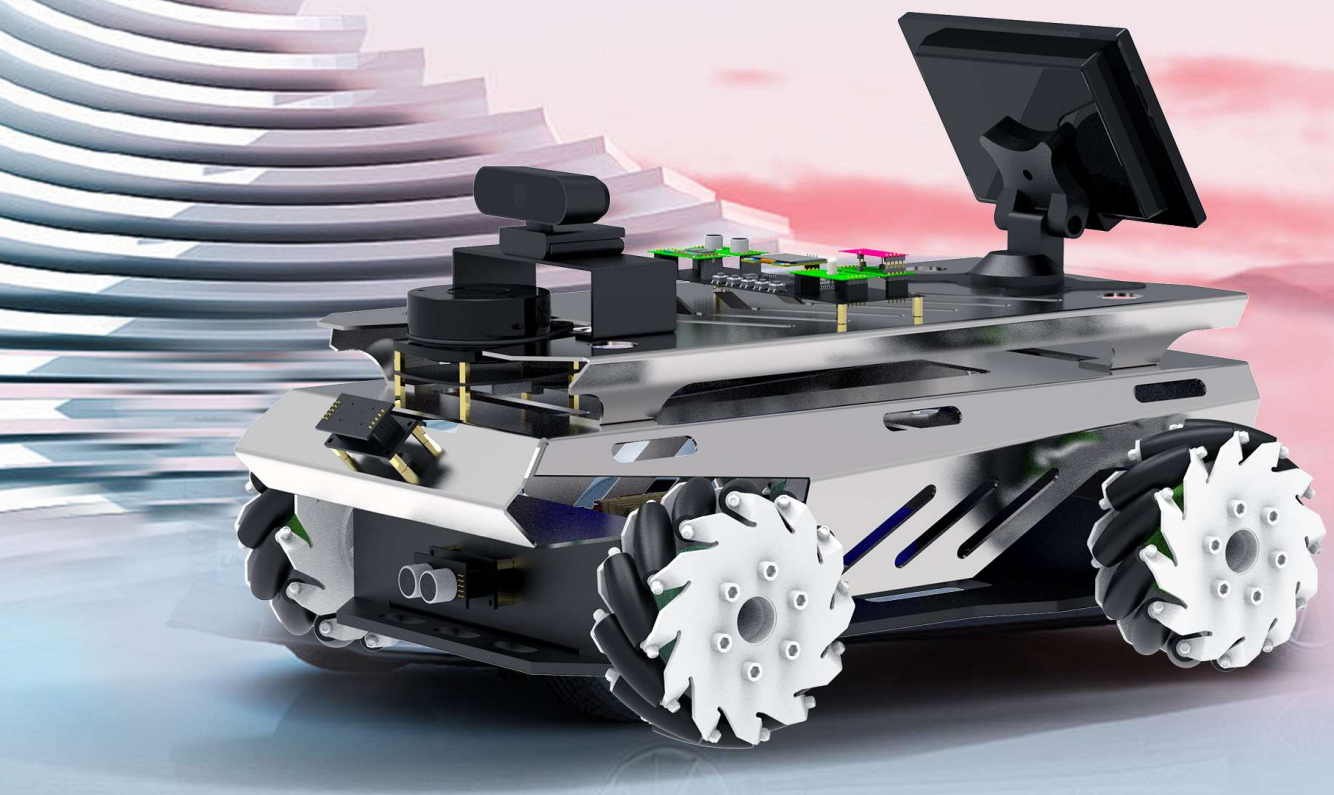

WeChat Official Account

WeChat Video Account

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