Learning Path

The solid-state drive that comes with the product contains the factory system image, so there is no need to re-burn the system yourself or set up the environment according to the tutorial content.

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When users start our system, they only need to run the case startup command to
see the effect. The installation environment may destroy the original
environment.
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Chapter Introduction

Users can read relevant tutorials according to their needs.

Chapter 1 Quick Start

Mainly introduces the learning route of the motherboard and the factory system image environment information.

Chapter 2 Jetson basic course

Mainly introduces the parameters of the motherboard, system Writing, and hard disk expansion.

Note:

1. Write Jetson original system and component environment is not necessary for beginners (the solid-state drive equipped with the product contains the factory system image). This tutorial is suitable for developers with specific needs!
2. Considering the time for image backup and burning, the factory image is generally compressed. The first operation after the user successfully starts the system is to expand the solid-state drive.

Chapter 3 Basic Use

Mainly introduces the basic operation of the Ubuntu22.04 system and the use of essential system tools.

Chapter 4 GPIO Control

Mainly introduces the GPIO pin control, serial port and I2C communication of the Jetson Orin series motherboards.

Chapter 5 Visual Basics

Mainly introduces the simple calls of CSI cameras and USB cameras. Users can verify whether the camera is normal according to the tutorial case.

Chapter 6 OpenCV Basics

Mainly introduces common image processing in OpenCV and provides simple examples of camera calls.

Chapter 7 Advanced Visualization

Mainly introduces the basic environment required for visual gameplay and advanced visual gameplay examples (DeepStream, YOLO11, Mediapipe, QR code recognition).

Chapter 8 Docker Basics

Mainly introduces the basic usage commands, methods and script startup writing of Docker, so that users can quickly get started with ROS1-Melodic operations.

Chapter 9 ROS1-Melodic

Mainly introduces the basic knowledge of ROS1 and visual gameplay cases: the ROS1 environment is located in Docker, and users need to enter Docker for related operations; the visual gameplay case can only be used with a USB camera.

Chapter 10 ROS2-Humble

Mainly introduces the basic knowledge of ROS2 and visual gameplay cases: the ROS2 environment is located on the host and supports CSI cameras and USB cameras.

Chapter 11 Offline AI Large Model Development

Mainly introduces the offline development of AI large models, including Ollama, Open WebUI, and popular text dialogue and image recognition large models.