STM32Introduction

1.Explanation of the meaning of STM32

Literally: ST: STMicroelectronics is the name of a company. M: The abbreviation of Microelectronics, which means a microcontroller. Pay attention to the difference between a microcontroller and a microprocessor. 32: The meaning of 32bit, which means that this is a 32bit.

2.Relationship between STM32 and ARM

ARM is a British chip design company. Its most successful is the 32-bit embedded CPU core, ARM series, the most commonly used are ARM7 and ARM9, ARM company mainly provides IP (the core of Intellectual Property core intellectual property) core, which is CPU The kernel structure, only includes the most core part, not a complete processorARM . It sells this core to major semiconductor companies, Many companies such as Philips, Samsung, ATMEL, and even Intel. In order to deal with the 8-bit machine market, ARM has launched a series of Cortex-M cores. STM32 uses Cortex-M as the core, and through the combination and packaging of some peripherals, it has become a popular 32-bit embedded processor.

Our development board uses STM32F1, which is the M3 core, and the Cortex-M3 uses the ARMv7-M architecture.

The ARMv7 architecture defines three series with clear division of labor:

"A" series: for cutting-edge virtual memory-based operating systems and user applications;

"R" series: for real-time systems;

"M" series: for microcontrollers.

Cortex-M4 adopte l'architecture ARMv7-ME, Cortex-M0 adopte l'architecture ARMv6-M, Cortex-A5/A8 adopte l'architecture ARMv7-A et la série ARM7 traditionnelle adopte l'architecture ARMv4T.

3. What STM32 can do?

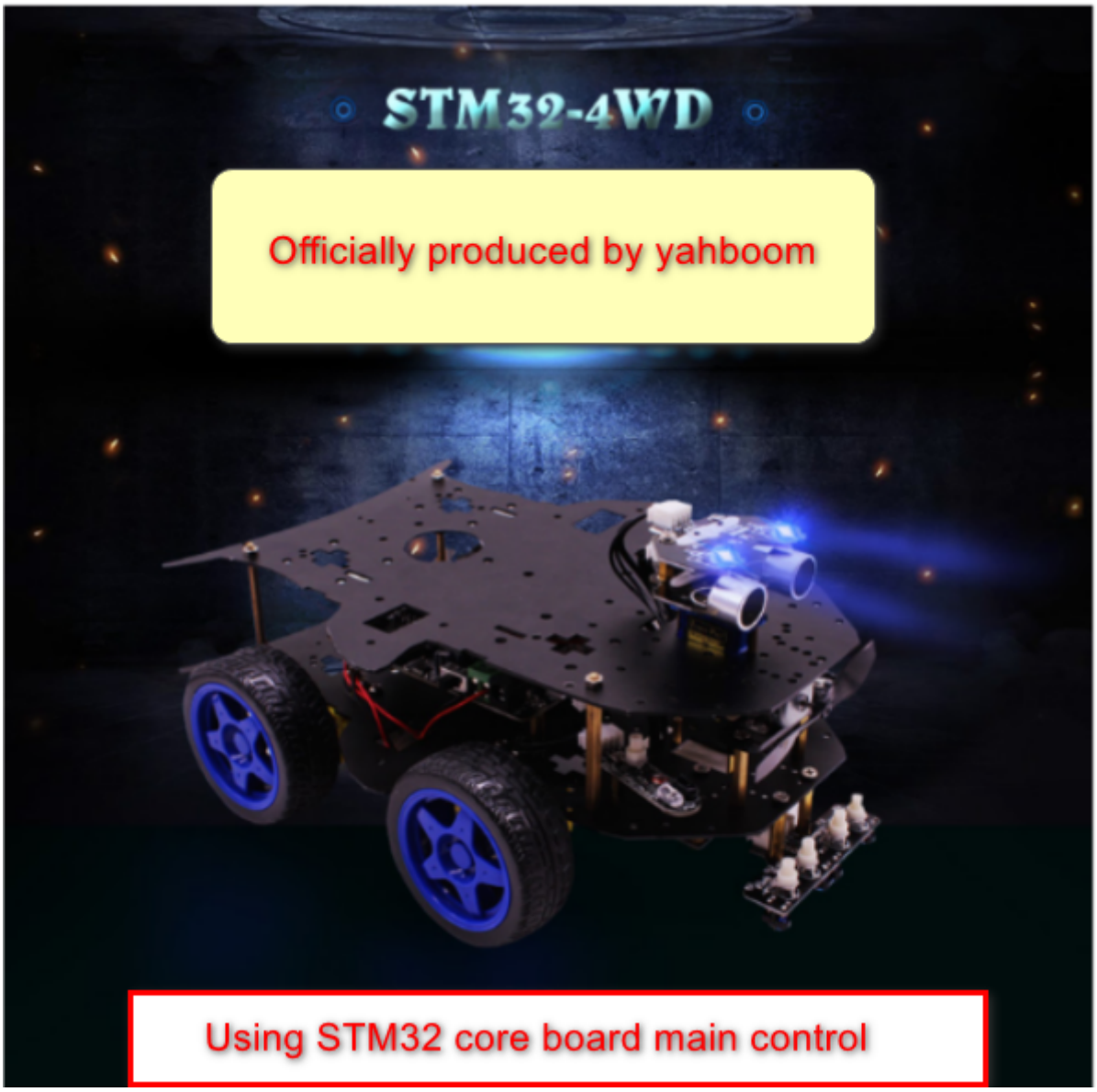
The usefulness of STM32 depends on its internal resources. Although the core board designed and developed by our company is small in size, it has rich functions. For details, please refer to the core board data description chapter. The interface functions are listed as follows:

USART: ESP8266 WIFI module, GSM module, Bluetooth module, GPS module, fingerprint identification module, etc.

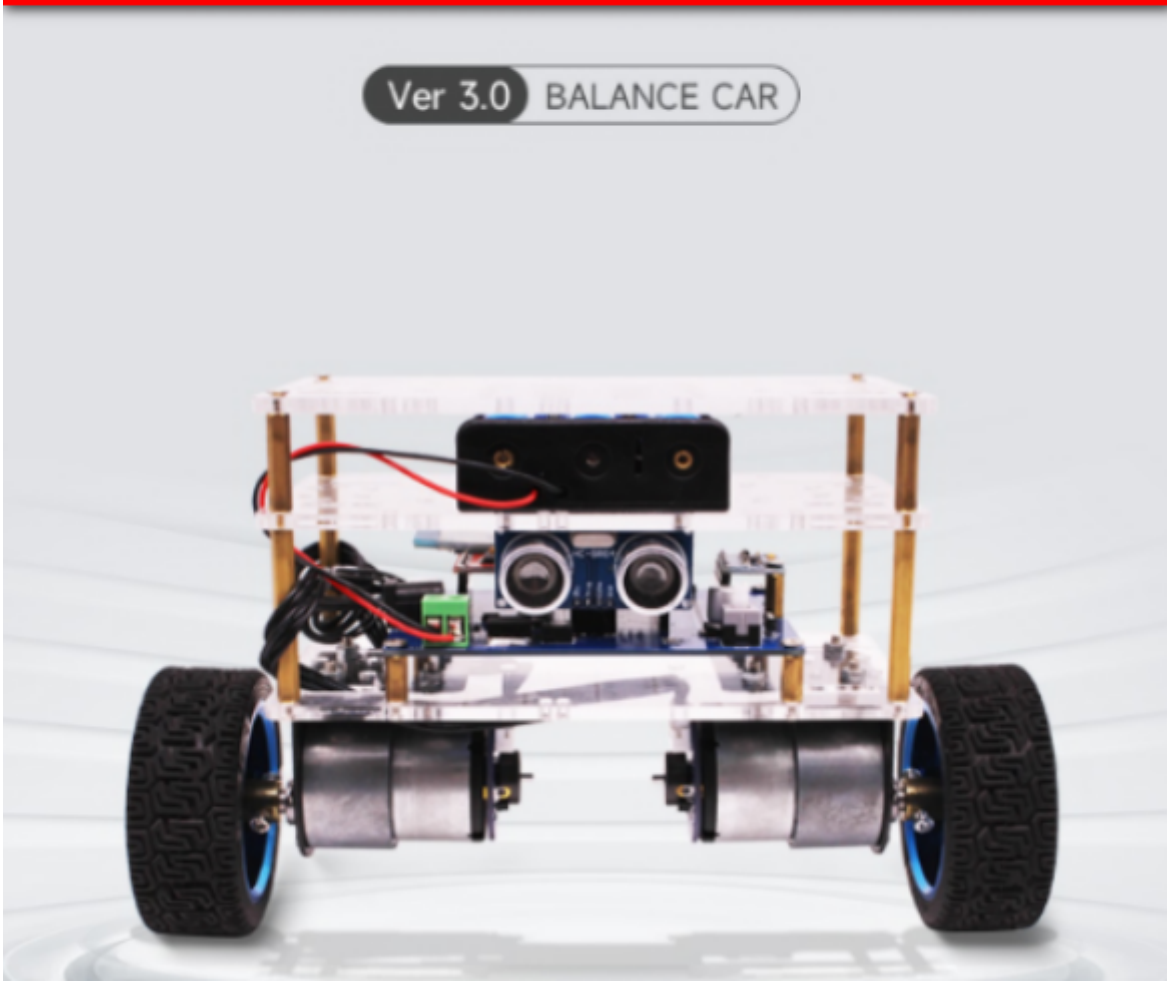
IIC: EEPROM, MPU6050 gyroscope, 0.96-inch OLED screen, capacitive screen, etc.

AD/DA: photosensitive sensor module, smoke sensor module, combustible gas sensor module, simple oscilloscope, etc.

Some other interfaces are not listed here, anyway, STM32 can do too many things. Electronic products that can be seen in daily life: smart bracelets, balance cars, sweepers, mobile POST machines, four-wheel drive vehicles, 3D printers, robots, etc.


STM32-4WD
Officially produced by yahboom
Using STM32 core board main control

STM32 Balance Car



In general, STM32 is a powerful 32-bit single-chip microcomputer, which is very suitable for the introductory learning of embedded technology learning. This product tutorial will combine the STM32 core board developed by Yabo Intelligent to explain the various aspects of the STM32 motherboard. A common usage method, including development environment installation and configuration, new project, code compilation and debugging, etc., and provides a large number of routine source code and related routine explanation documents. I hope that our friends can gain something during the STM32 learning journey.