Fingerprint recognition

1. Learning target

In this course, we will learn how to use Jetson NANO and fingerprint recognition module to achieve fingerprint recognition function.

2. Preparation

The fingerprint recognition module uses UART communication, and the program uses a virtual serial port. Connect the TX and RX of the module to the 10 and 8 pins of the Jetson NANO board. V+/Vi and GND are connected to 3.3V and GND of Jetson NANO board respectively.

Jetson Nano J41 Header

Sysfs GPIO	Name	Pin	Pin	Name	Sysfs GPIO
	3.3 VDC *Power*	1	2	**5.0 VDC** *Power*	
	I2C_2_SDA *I2C Bus 1*	3	4	**5.0 VDC** *Power*	
	I2C_2_SCL *I2C Bus 1*	5	6	**GND**	
gpio216	**AUDIO_MCLK**	7	8	**UART_2_TX** */dev/ttyTHS1*	
	GND	9	10	**UART_2_RX** */dev/ttyTHS1*	
gpio50	**UART_2_RTS**	11	12	**I2S_4_SCLK**	gpio79
gpio14	**SPI_2_SCK**	13	14	**GND**	
gpio194	**LCD_TE**	15	16	**SPI_2_CS1**	gpio232
	3.3 VDC *Power*	17	18	**SPI_2_CS0**	gpio15
gpio16	**SPI_1_MOSI**	19	20	**GND**	
gpio17	**SPI_1_MISO**	21	22	**SPI_2_MISO**	gpio13
gpio18	**SPI_1_SCK**	23	24	**SPI_1_CS0**	gpio19
	GND	25	26	**SPI_1_CS1**	gpio20

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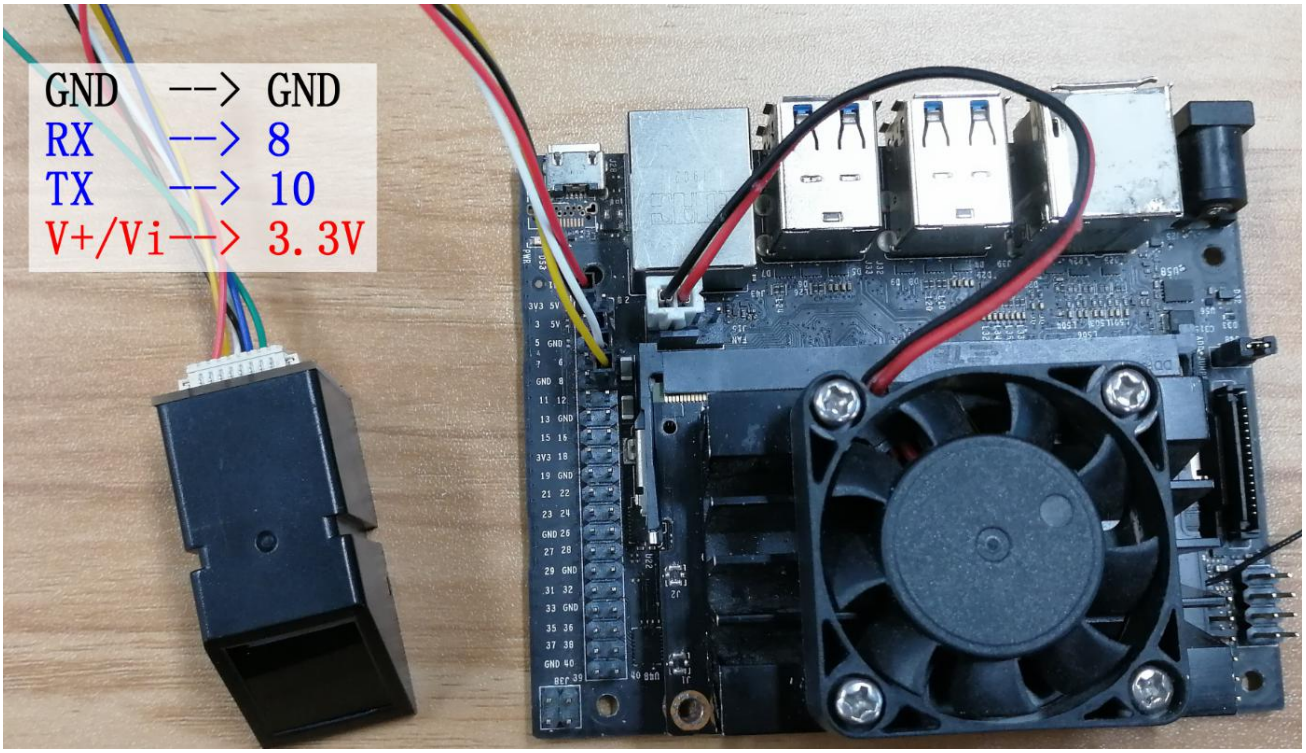

Every time you start Jetson NANO, you need to enter the following command to enable permissions

sudo chmod 777 /dev/ttyTHS1

3. About code

Please view **finger_search-nano.py** file.

4. Running code

Input following command to run this code.

python3 finger_search-nano.py

6. Phenomenon

After the program is run successfully. System will start to initialize the fingerprint recognition module.

If the initialize is successfully, it will display "Initialized successfully". Otherwise, please check the baud rate or wiring of the module.

When the Shell window shows "press finger", we need to put our finger on the module. If there is a corresponding fingerprint, the corresponding ID will be displayed. If the corresponding fingerprint is not found, it will display "No matching fingerprint found".