MaixPy Turtorial

CTI One Corporation

Version: x0.1 (Alpha)
Date: Jan 22, 2020
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Team members:
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MaixPy Set Up

source: https://www.youtube.com/watch?v=KResVuAIMb4
https://maixpy.sipeed.com/en/
http://blog.sipeed.com/p/category/maix-software/maixpy

Step 1: Check the Sipeed board Serial connection, open the Terminal and run this command:

dmesg | grep tty

```
minhduc@minhduc-Blade:~$ dmesg | grep tty
[    0.000000] console [tty0] enabled
[    6.764609] dw-apb-uart.1: ttyS4 at MMIO 0x72001000 (irq = 20, base_baud = 11
5200) is a 16550A
[  178.758789] usb 1-3: ch341-uart converter now attached to ttyUSB0
[  436.374006] ch341-uart ttyUSB0: ch341-uart converter now disconnected from tt
yUSB0
[  440.330562] usb 1-1: ch341-uart converter now attached to ttyUSB0
```

In this case, it is ttyUSB0

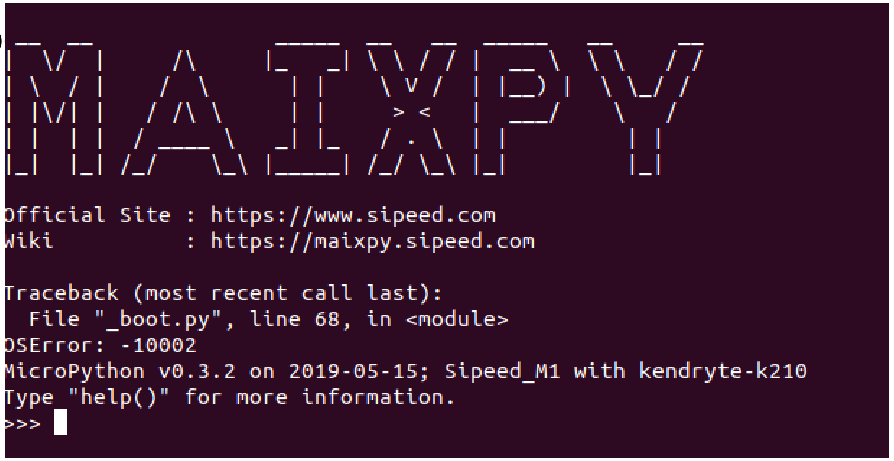
Step 2: Install Screen application:

sudo apt-get install screen

Step 3: After Screen is installed, we do access to the Sipeed b

sudo screen /dev/ttyUSB0 115200

Press Ctrl +C, then Ctrl + D to reboot the board



MaixPY example program

Step 4:
Type this program to MaixPy:

```
import sensor
import image
import lcd

lcd.init()
sensor.reset()
sensor.set_pixformat(sensor.RGB565)
sensor.set_framesize(sensor.QVGA)
sensor.run(1)
while True:
        img=sensor.snapshot()
        lcd.display(img)
```

Then press Enter 3 times, and we can see the Videos Streaming from the Camera.

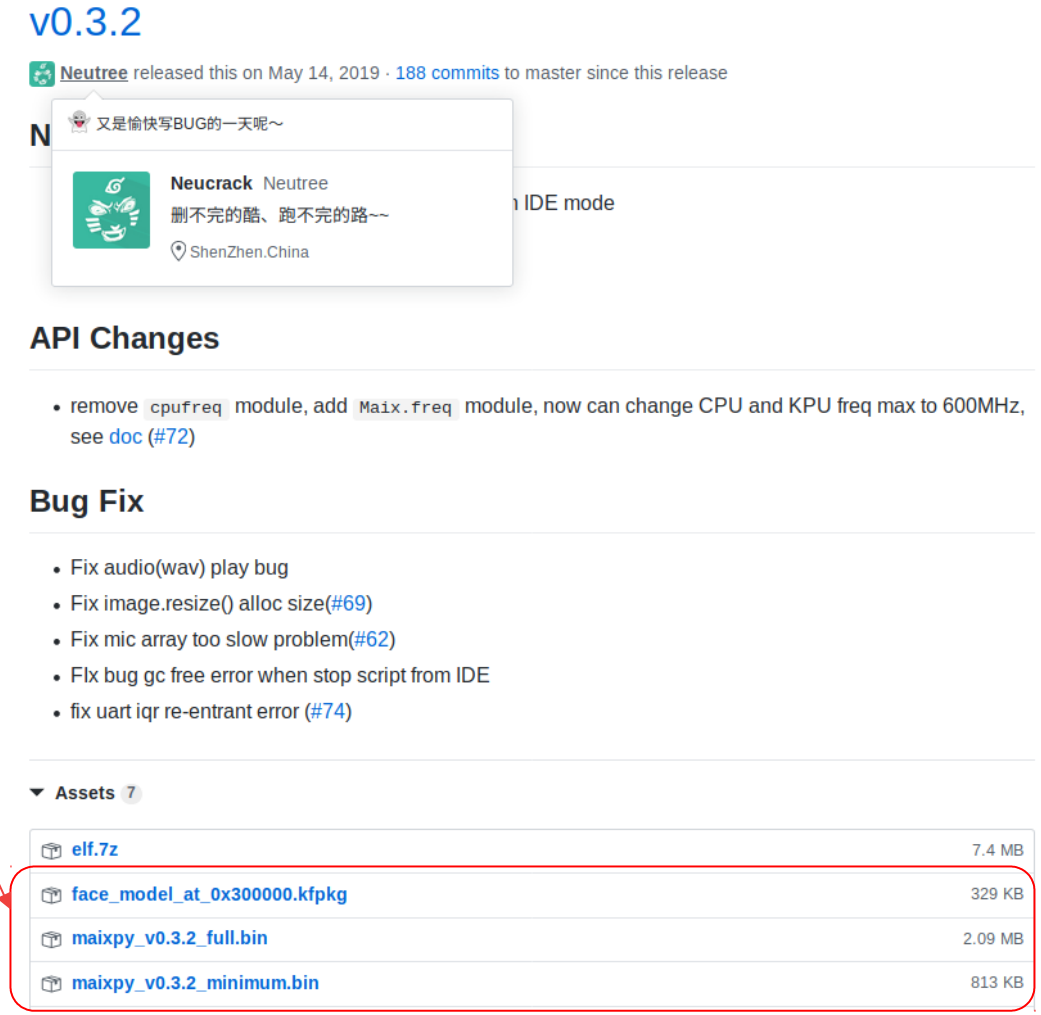
MaixPY Firmware Download

Step 5: Go to https://github.com/sipeed/MaixPY/releases, scroll down to 0.3.2 and download 3 files:

1.face_model_at_0x300000.kfpkg

2.maixpy_v0.3.2_full.bin

3.maixpy_v0.3.2_minimum.bin



KFlash program to flash binary files

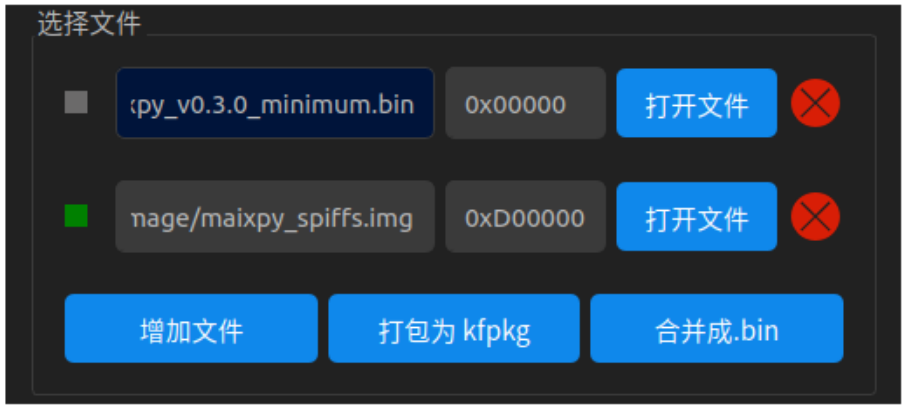
Step 6: Go to https://github.com/sipeed/kflash_gui/releases, download kflash v1.5 for Linux:

v1.5

Neutree released this on Jul 18, 2019 · 12 commits to master since this release

Changes

- Add pack bin file support
- Add enable button for bin file
- Remove prefix option, auto identify firmware



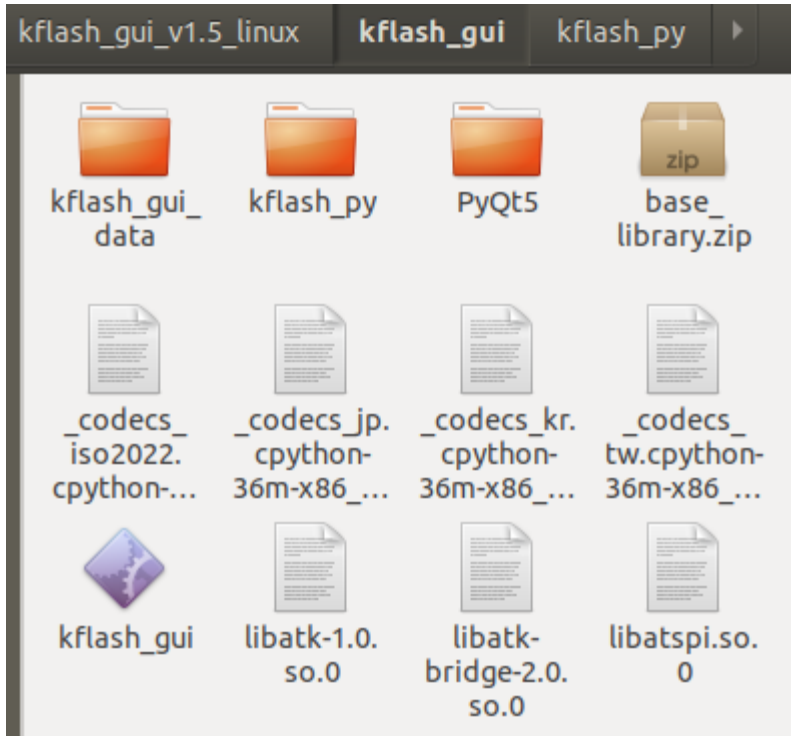
Download

- kflash_gui_v1.5_windows.7z
- kflash_gui_v1.5_linux.tar.xz
- kflash_gui_v1.5_macOS.dmg

Download this for Linux

KFlash program to flash binary files

Step 6.1: Decompress the “kflash_gui_v1.5_linux”, and go to kflash_gui.



Step 6.2: Then open a Terminal Window in this folder and run the klash_gui with sudo mode:

sudo ./kflash_gui

MaixPY Firmware Flashing

Step 7: Then open the kflash_gui application and choose options as below

Step 7.1: On “Open File” and select:

maixpy_v0.3.2_full.bin

Step 7.2: On “Board” select:

Sipeed Maix Dock

Step 7.3: On “Burn To” select:

Flash

Step 7.4: On “Port” select:

/dev/ttyUSB0

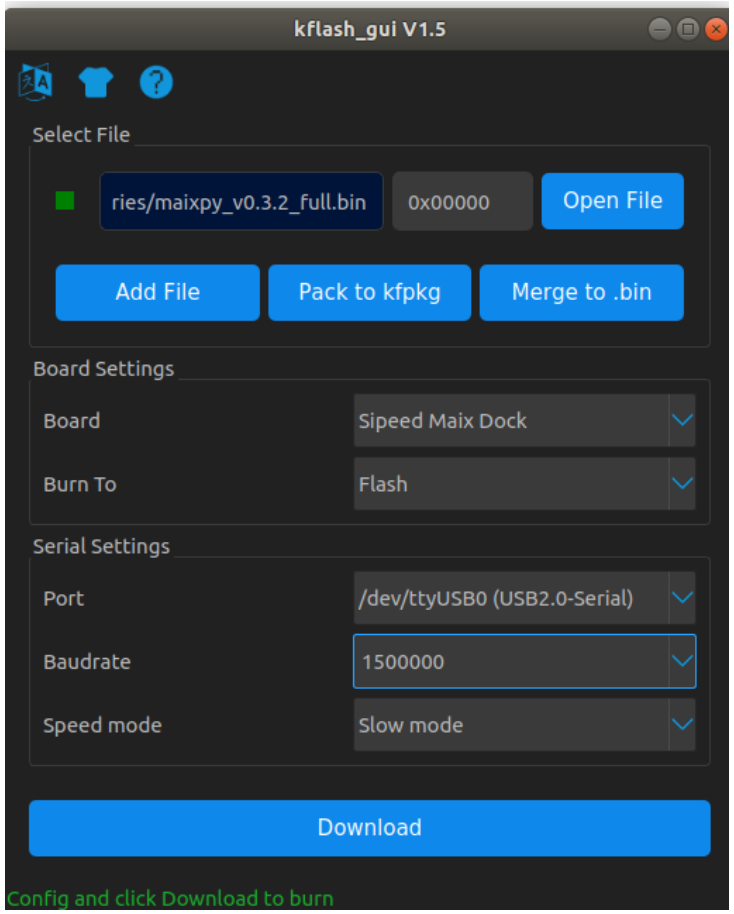
Step 7.5: On “Baud Rate” select:

150000

Step 7.6: On “Speed Mode” select:

Slow Mode

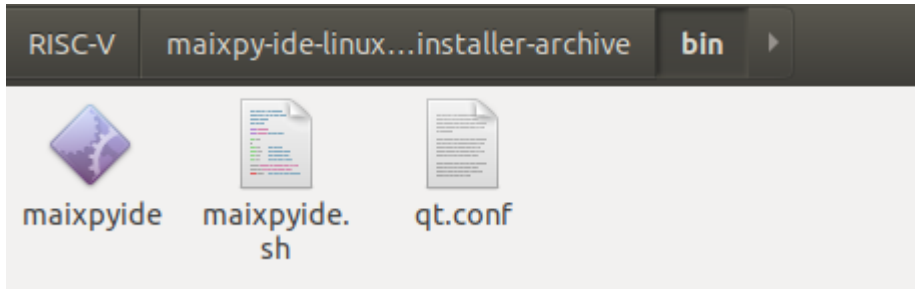
Step 7.7: Click Download to flash the firmware to the board.



MaixPY IDE program

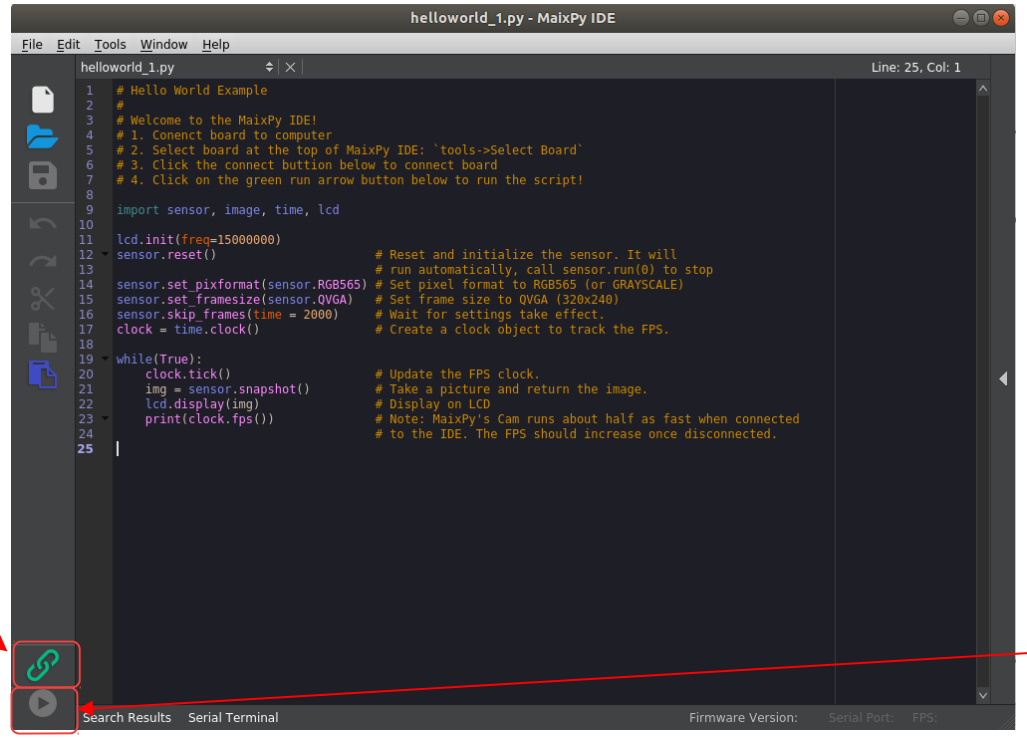
Step 8: Go to http://dl.sipeed.com/MAIX/MaixPy/ide/v0.2.2 and download

maixpy-ide-linux-x86_64-0.2.2-installer-archive.7z



Step 8.1: The decompress, go to ./maixpy-ide-linux-x86_64-0.2.2-installer-archive/bin:

Open Terminal Window and run: sudo ./maixpyide



Click this to link to the board

Click this to run the program

MaixPY Face Detection Result

After flashing the face_model_at_0x30000.kfpkg by the kflash v1.5 program, and run the face detection program , we have the result as shown: