


車輛視覺系統 Tello EDU教學

日期：2019/11/22

設備介紹

配件	數量
	飛行器 × 1
	螺旋槳（對） × 4
	槳葉保護罩（套） × 1
	電池 × 1
	Micro USB 傳輸線 × 1
	螺旋槳拆卸工具 × 1
	挑戰卡 × 4

電池管家



官方範例程式

- <https://github.com/dji-sdk/Tello-Python>

github.com/dji-sdk/Tello-Python

13 commits 1 branch 0 packages 0 releases 2 contributors View license

Branch: master New pull request Create new file Upload files Find file Clone or download

hanker-lu 1 · Add FAQ file(EN&CH) according recent questions asked by users;2 · Ren... 1 Latest commit 693776d on 15 Feb

Single_Tello_Test	modify the readme	last year
Tello_Video	1 · add the vcredist_x64.exe into tello_video_dll.zip;2 · remove the manu...	9 months ago
Tello_Video_With_Pose_Recognition	1 · add the vcredist_x64.exe into tello_video_dll.zip;2 · remove the manu...	9 months ago
doc	Tello-Python SampleCode v1.0.0	last year
.gitattributes	add the .gitattributes	last year
.gitignore	Tello-Python SampleCode v1.0.0	last year
LICENSE.md	Tello-Python SampleCode v1.0.0	last year
README.md	1 · Add FAQ file(EN&CH) according recent questions asked by users;2 · Ren...	9 months ago
TelloPython_FAQ(CH).txt	1 · Add FAQ file(EN&CH) according recent questions asked by users;2 · Ren...	9 months ago
TelloPython_FAQ.txt	1 · Add FAQ file(EN&CH) according recent questions asked by users;2 · Ren...	9 months ago
tello_state.py	Tello-Python SampleCode v1.0.0	last year
tello_video_dll(ForWin64).zip	1 · Add FAQ file(EN&CH) according recent questions asked by users;2 · Ren...	

官方範例程式：Tello-Video

- https://github.com/dji-sdk/Tello-Python/tree/master/Tello_Video

- Written in Python 2.7

- 安裝：

- Windows

Go to the "install\Windows" folder, select and run the correct "windows_install.bat" according to your computer operating system bits.

- Linux (Ubuntu 14.04 and above)

Go to the "install\Linux" folder in command line, run

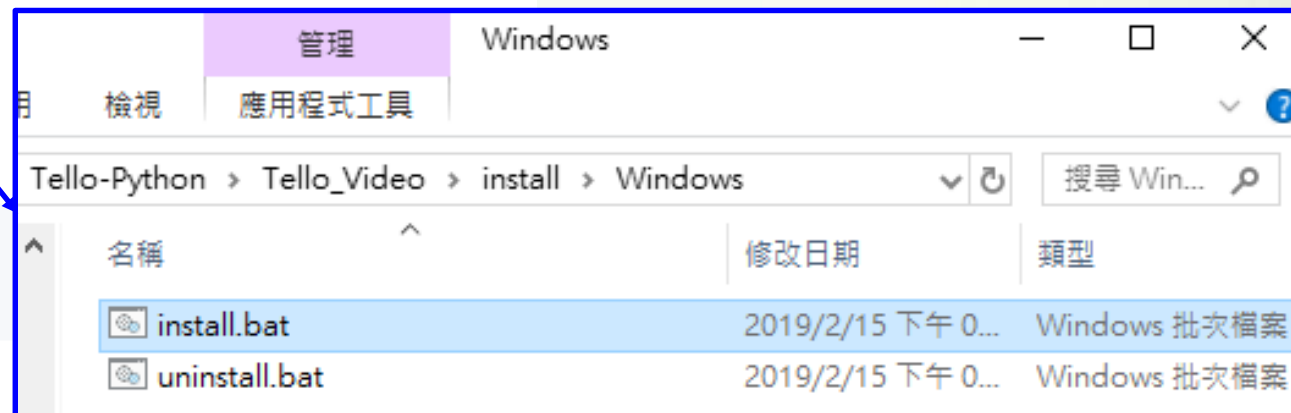
```
chmod +x linux_install.sh
./linux_install.sh
```

- Mac

i. Make sure you have the latest Xcode command line tools installed. If not, you might need to update your OS X and XCode to the latest version in order to compile the h264 decoder module

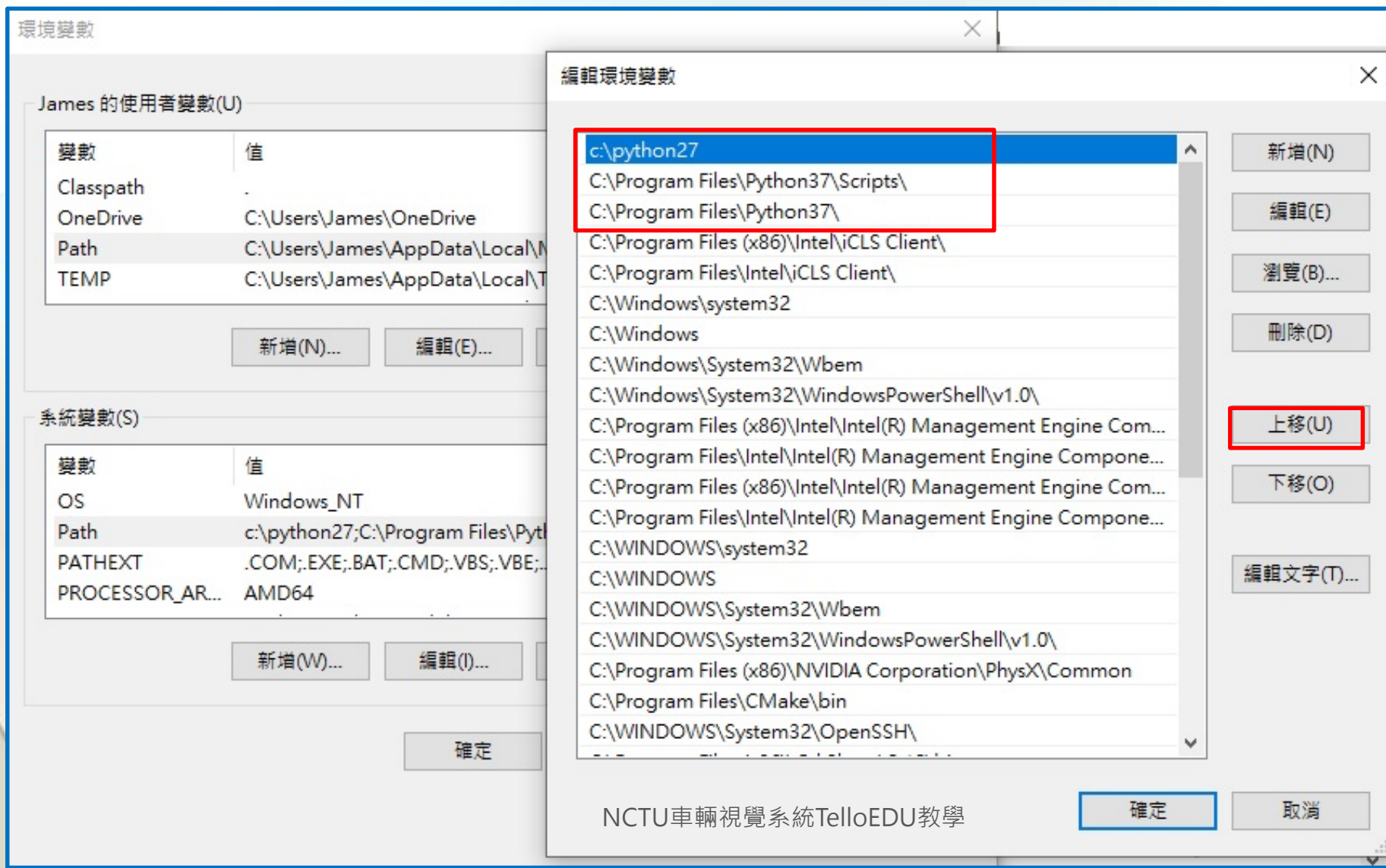
ii. Go to the "install\Mac" folder in command line, run

```
chmod a+x ./mac_install.sh
./mac_install.sh
```



官方範例程式：Tello-Video

- 不同版本的Python



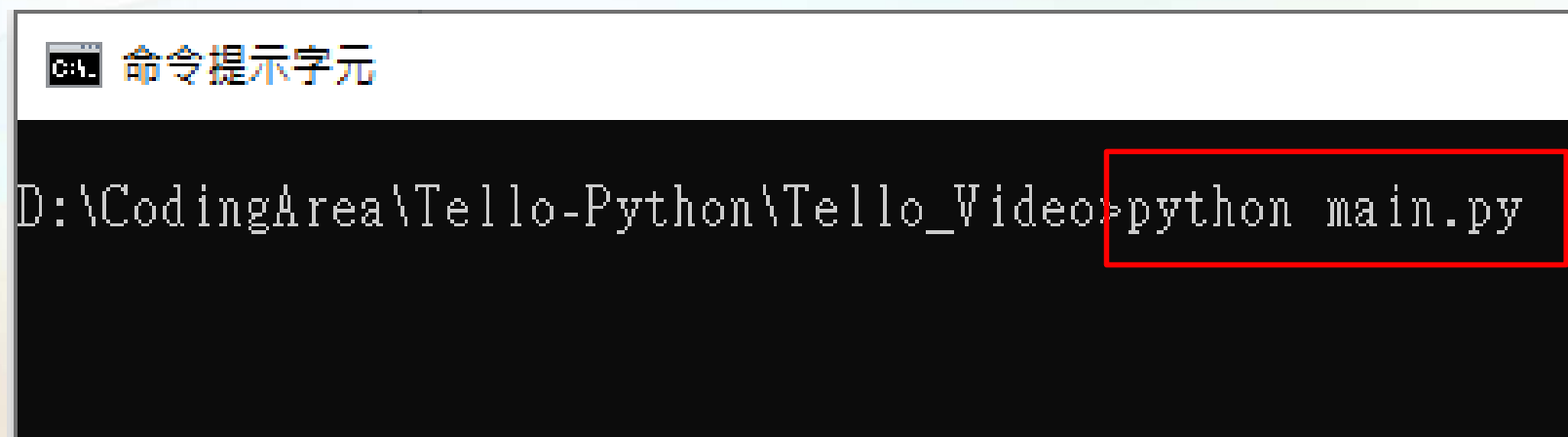
官方範例程式：執行 Tello-Video

- 第一步。打開Tello無人機，並透過Wi-Fi將筆電連接到Tello



官方範例程式：執行 Tello-Video

- 第二步。在命令列打開程式所在資料夾，並輸入 `python main.py`

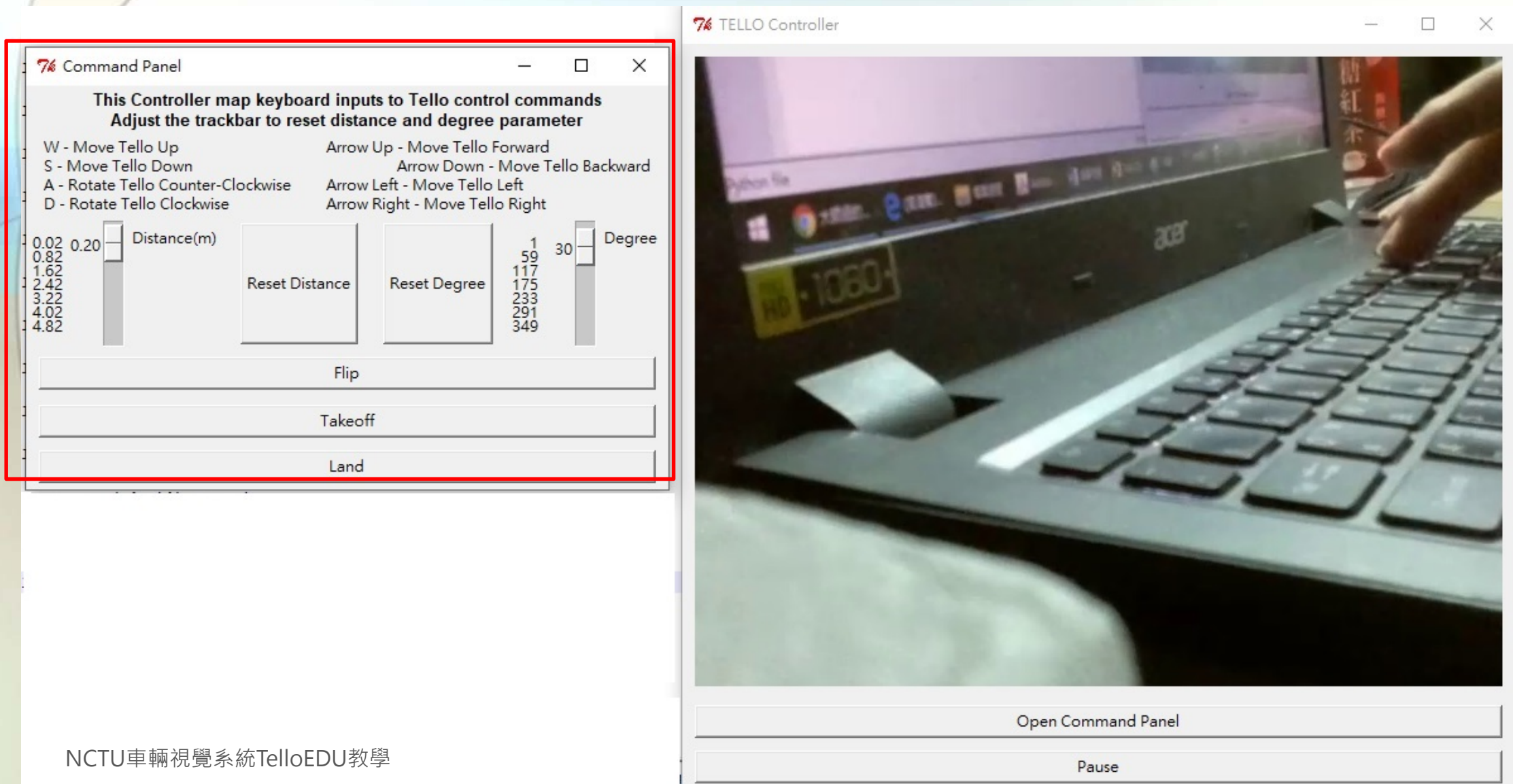


The screenshot shows a Windows Command Prompt window with the title bar "命令提示字元". The command prompt displays the current directory as `D:\CodingArea\Tello-Python\Tello_Video` and the command `python main.py` has been entered. The command and its arguments are highlighted with a red rectangular box.

```
D:\CodingArea\Tello-Python\Tello_Video>python main.py
```

官方範例程式：執行 Tello-Video

- 第三步。將顯示一個使用者界面：



Tello API

```
self.tello.takeoff()  
  
self.tello.land()  
  
self.tello.flip('l')  
  
self.tello.flip('r')  
  
self.tello.flip('f')  
  
self.tello.flip('b')  
  
self.tello.rotate_cw(degree)  
  
self.tello.rotate_ccw(degree)
```

```
self.tello.move_forward(distance)  
self.tello.move_backward(distance)  
  
self.tello.move_left(distance)  
  
self.tello.move_right(distance)  
  
self.tello.move_up(dist)  
  
self.tello.move_down(dist)
```

distance和dist的單位為公尺！

所以在測試時，建議distance和dist的數字不要設超過"1"！

Tello API

透過self.tello.read()可得到單張frame的影像

```
83 self.frame = self.tello.read()  
245 cv2.imwrite(p, cv2.cvtColor(self.frame, cv2.COLOR_RGB2BGR))
```

參考資料

- <https://github.com/dji-sdk/Tello-Python>
- <https://www.esentra.com.tw/product/ryze-tello-edu-drones/>
- 助教Email : jamesshiakimo@yahoo.com.tw