1、python环境安装：在客户端（Linux环境），服务器端（Windows环境）分别安装conda，自带python环境（版本3.6以上）；

2、Java环境安装：在客户端直接安装JDK，在服务器端安装JDK，并配置环境变量；

3、c++环境安装：在客户端安装gcc，g++，cmake；

4、opencv环境安装：在客户端安装opencv（版本3.4.0），opencv\_contrib；

5、安装python库：在客户端，服务器端通过conda安装python库，包括：numpy，skimage，jpype，imageio，matplotlib，cv2

6、在客户端，用cmake install 安装拍摄控制模块；

7、先在服务器端，用python3 main.py -s server -t [时相标识] 启动；其中，服务器端的传输模块（uav-server.jar）由main.py调用启动；

8、之后在客户端，用python3 main.py -s client -t [时相标识] -ip [ip地址] -d [GPS采集时延] -l [距离判定阈值] -n [采集图像数量] -m [采集模式]启动；其中，客户端的传输模块（uav-client.jar）由main.py调用启动；

9、设计无人机航线，打开无线连接，启动服务器端和客户端，设置UAV参数按航线飞行，收集不同时相数据并进行处理，得到处理后的结果。

10. 要完整运行整个程序，需要准备好客户端、服务器端以及设置好参数的UAV才可以全流程运行。里面提供的DEMO数据，是通过无人机获取后的数据，仅仅只能作为机上客户端部分的手动分步骤测试数据和服务器展示部分的数据。

1. Python environment installation. Install CONDA on the client (Linux Environment) and server (Windows Environment) respectively, with its own Python environment (version 3.6 or above).

2. Java environment installation. Directly install JDK on the client, install JDK on the server, and configure environment variables.

3. C + + environment installation. Install gcc, g++, cmake on the client.

4. OpenCV environment installation. Install OpenCV (version 3.4.0) and opencv\_contrib on the client.

5. Install Python libraries. Install Python libraries on the client and server through CONDA, including numpy, skimage, jpype, imageio, matplotlib and CV2.

6. On the client side, use “cmake install” to install the shooting control module.

7. First, on the server side, use the command line “python3 main.py -s server -t [phase identification]” to start. Among them, the data transmission module on the server side (uav-server. jar) is composed of “main.py” call to start;

8. Then on the client side, use the command line “python3 main.py -s client -t [phase identification] -ip [IP address] -d [GPS acquisition delay] -l [distance determination threshold] -n [number of acquired images] -m [acquisition mode]” to start. Among them, the data transmission module on the client side (uav-server. jar) is composed of “main.py” call to start;

9. Design the UAV route line, open the wireless connection, start the server and client, set the UAV parameters, let UAV fly according to the route line, collect different time phase data (at least 2 phase), and get the near-real time processed results on the server end.

10. Note: To run the whole program completely, the client, server and UAV with set parameters need to be prepared and be guaranteed. The demo data provided in it is the data obtained by the UAV experiments carried out by us, which can only be used as the manual step-by-step test data of the on-board client part and the data of the server display part.