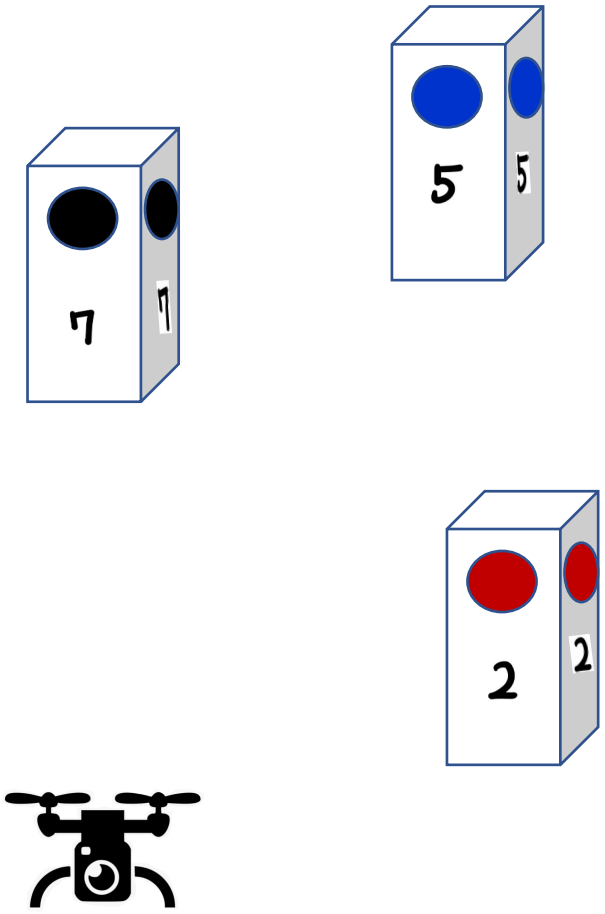
Emergency Landing

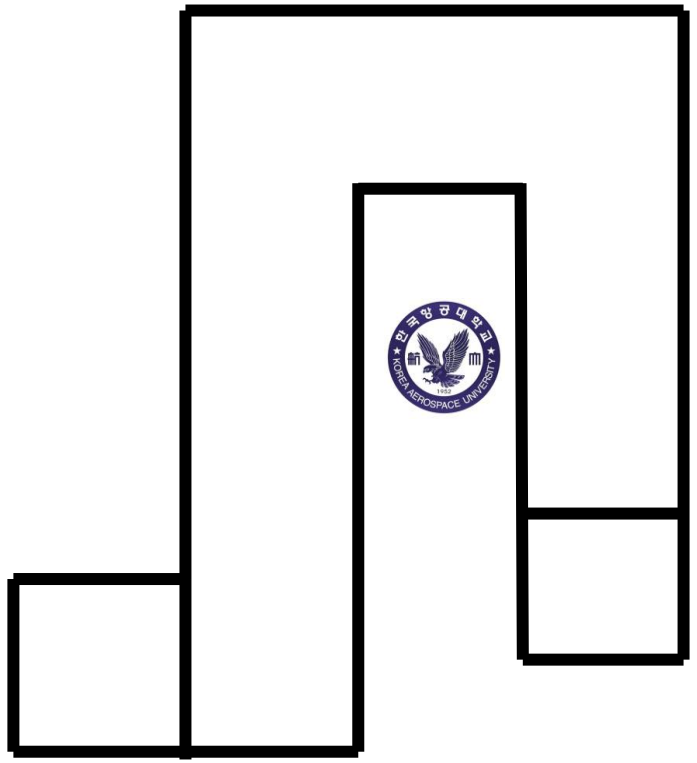
Algorithm : Mission Summary

Final-Round presentation

1. Flag Recognition Course



2. Tracking Course



3. Landing Course

KT-1

A380

AH-64
Apache

F22

Mission Solution

1. Flag Recognition Course

Step1. QR Dectection
- Opencv qr detector
- Pyzbar module

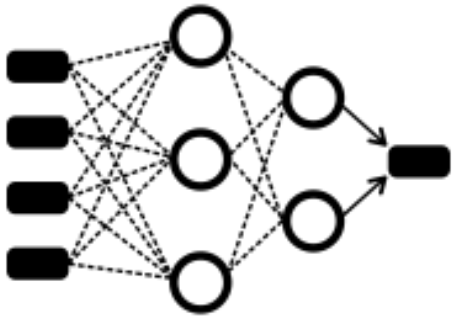
Step2. Flag Recognition
- Opencv blob detector
- Yolov5 (handwriting)

2. Tracking Course

- Use yolov5 model
- Tracking by PD(box size)

3. Landing Course

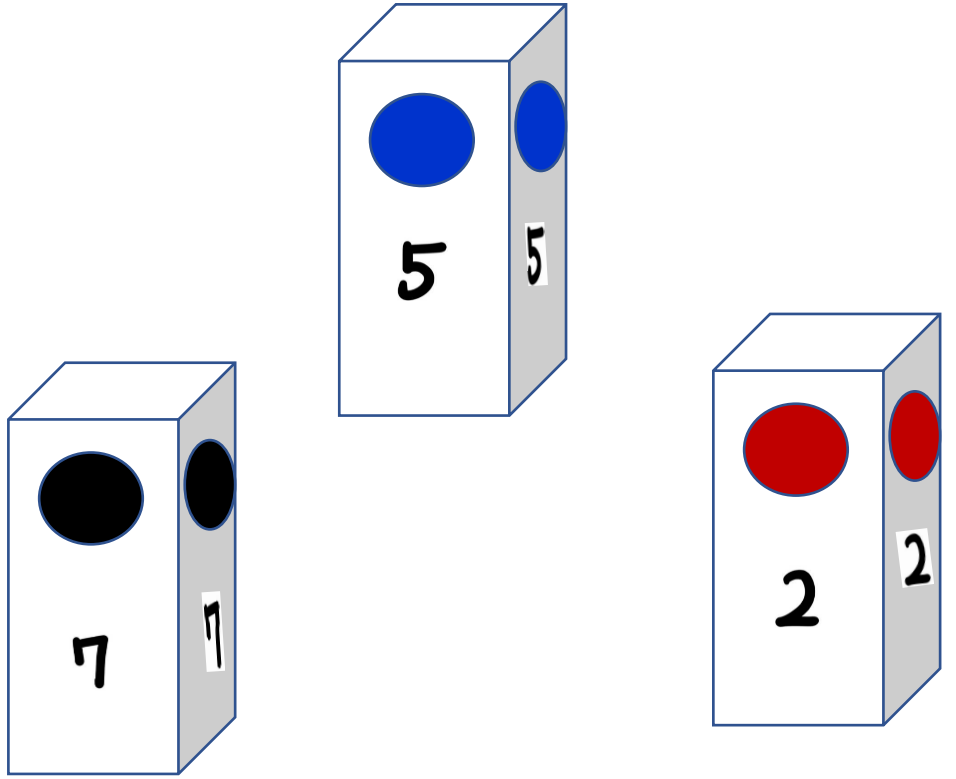
- Use yolov5 model



1. Flag Recognition Course

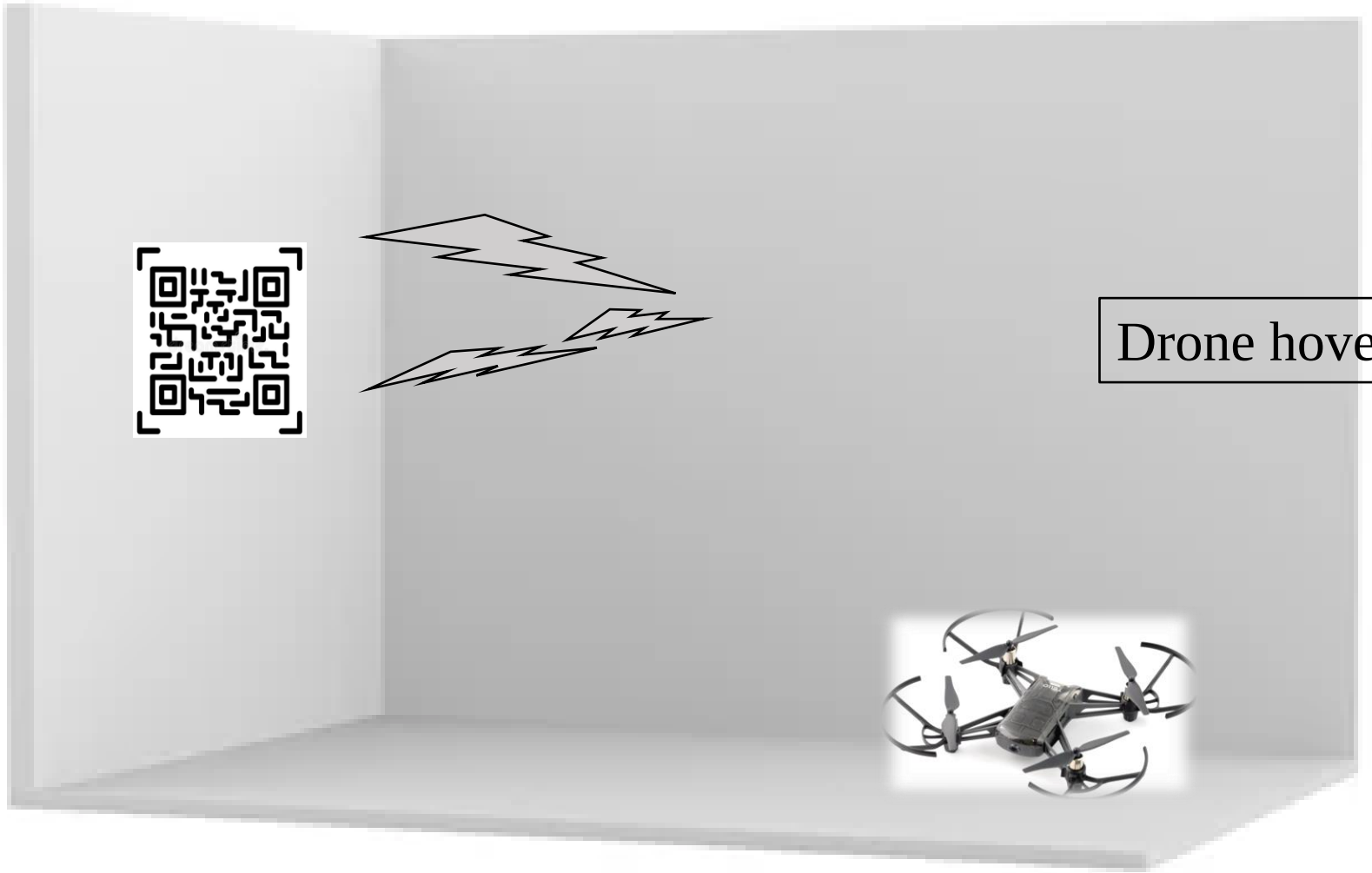
Step1. QR Dectection

Step2. Flag Recognition



1. Flag Recognition Course

Step1. QR Dectection

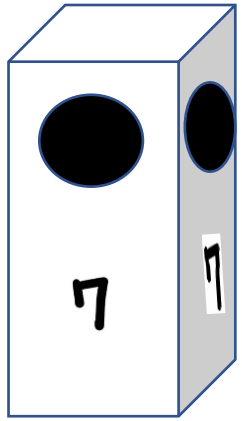


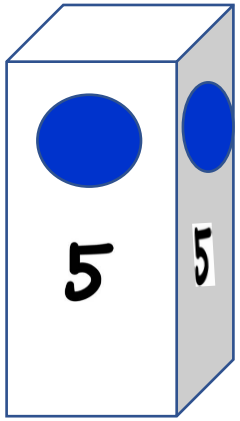
Drone hovers for 5 seconds

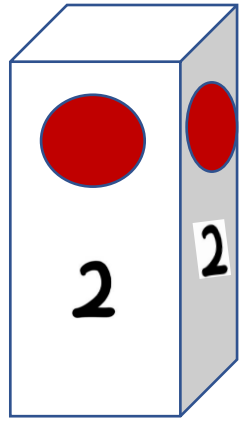
1. Flag Recognition Course

Step2. Flag Recognition

Circle Detected!

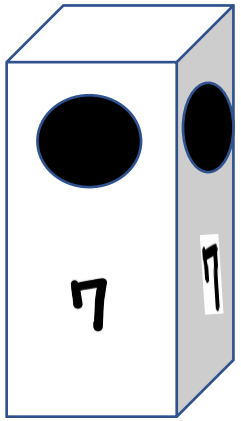






1. Flag Recognition Course

Step2. Flag Recognition

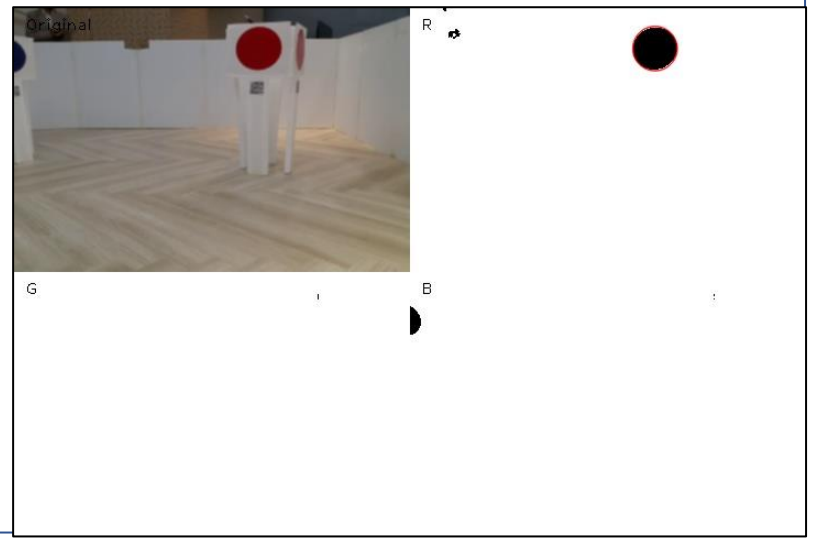


def clr_bin( ) -> Binary(Black and White) color filter

def blob( ) -> Circle looks like a dot from a distance

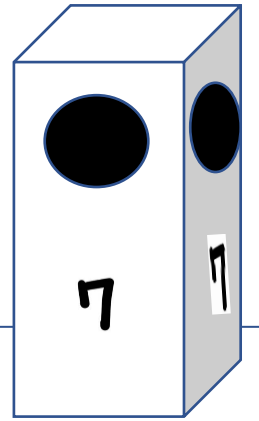
def circle_follow( ) , def circle_bin_detection( )

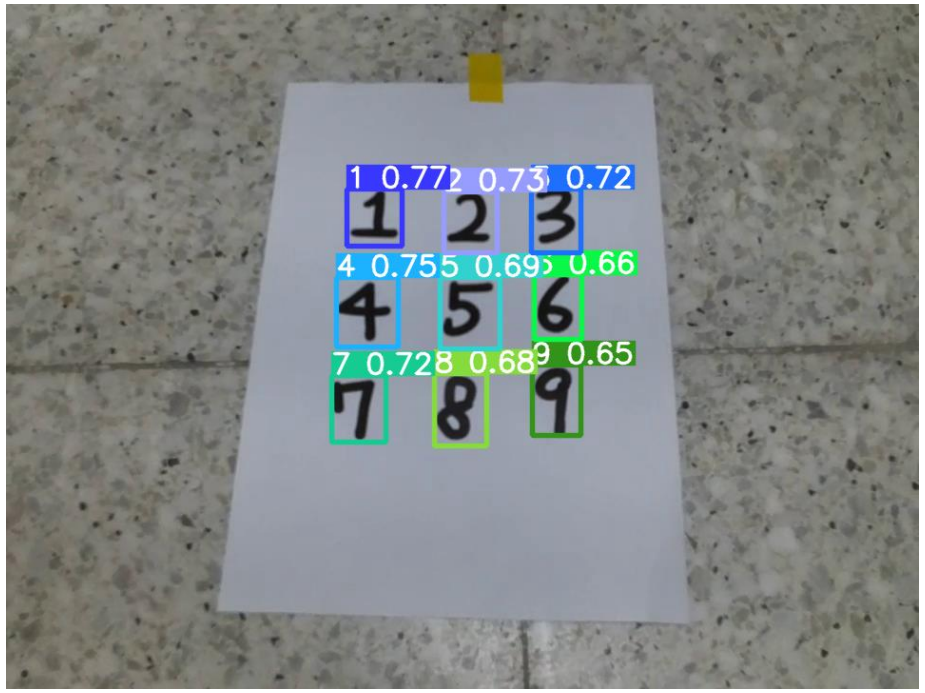
class yolo -> def detect_letter( )

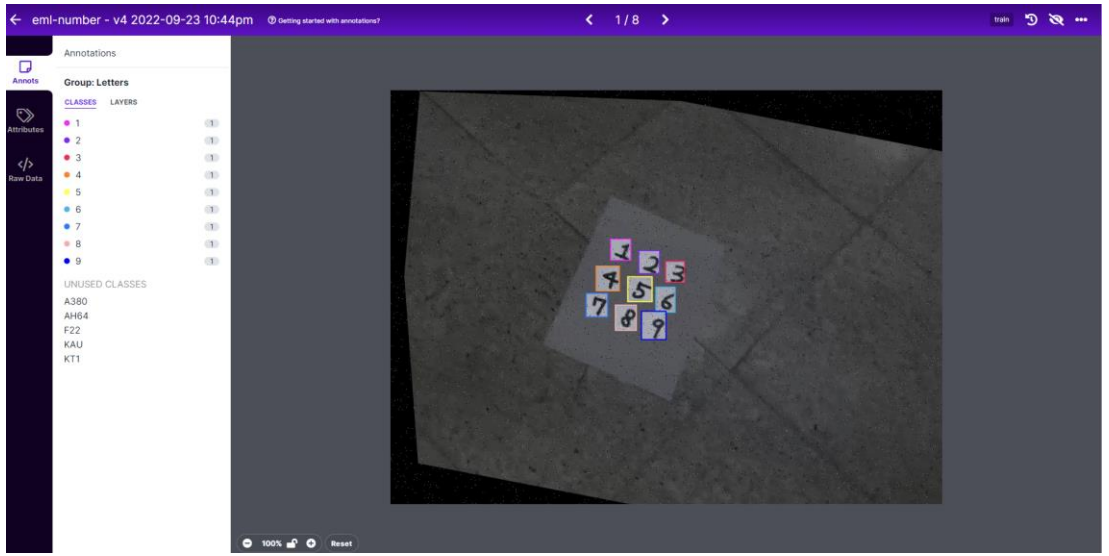


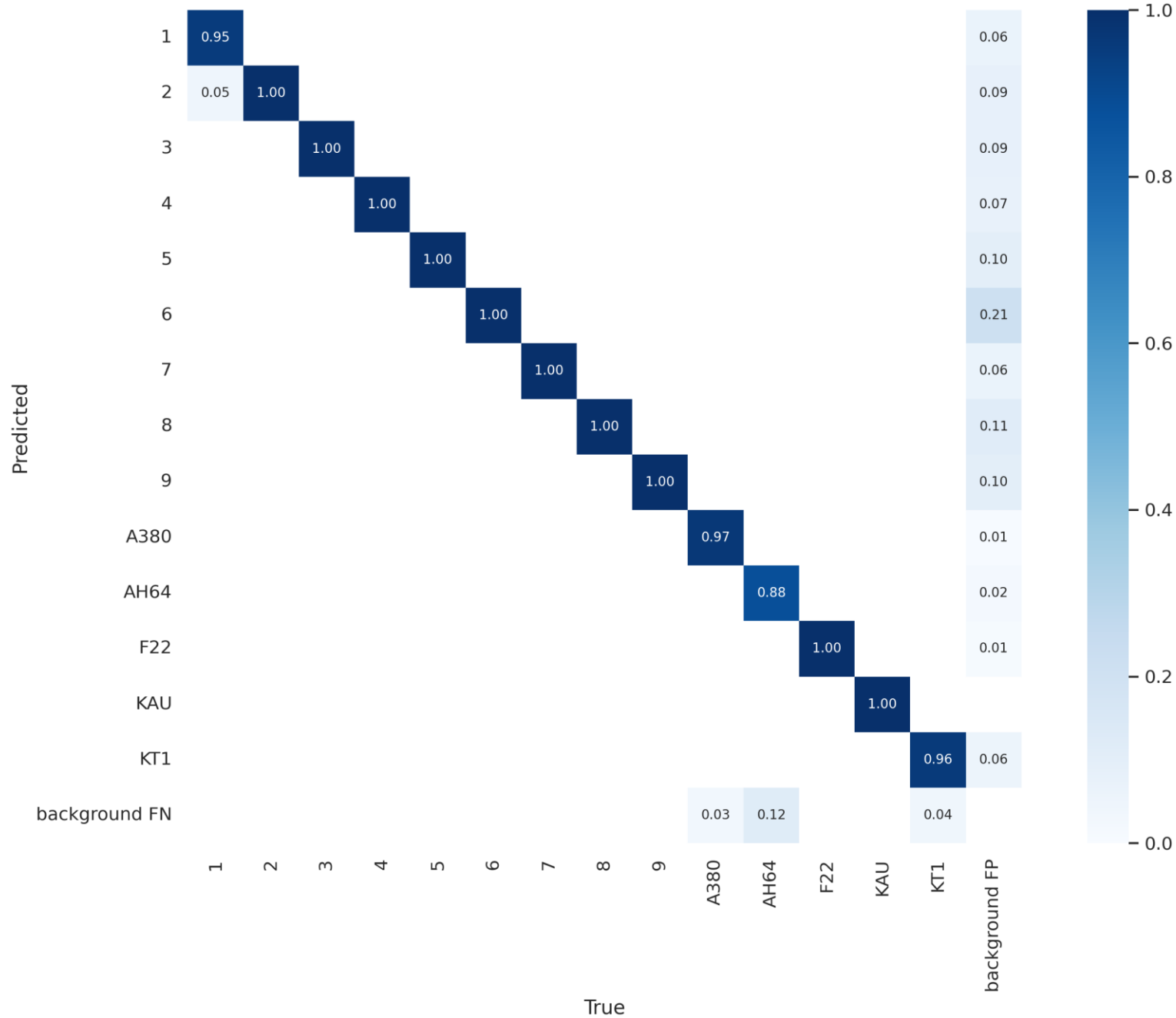
1. Flag Recognition Course

Step2. Flag Recognition

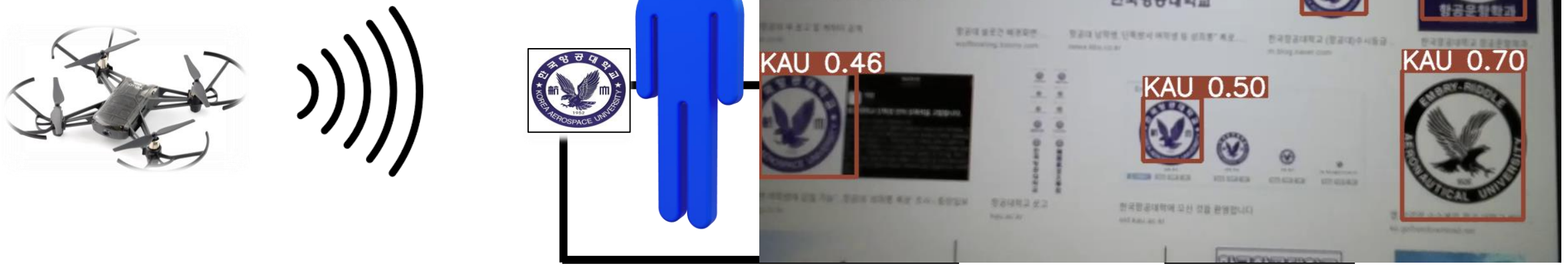




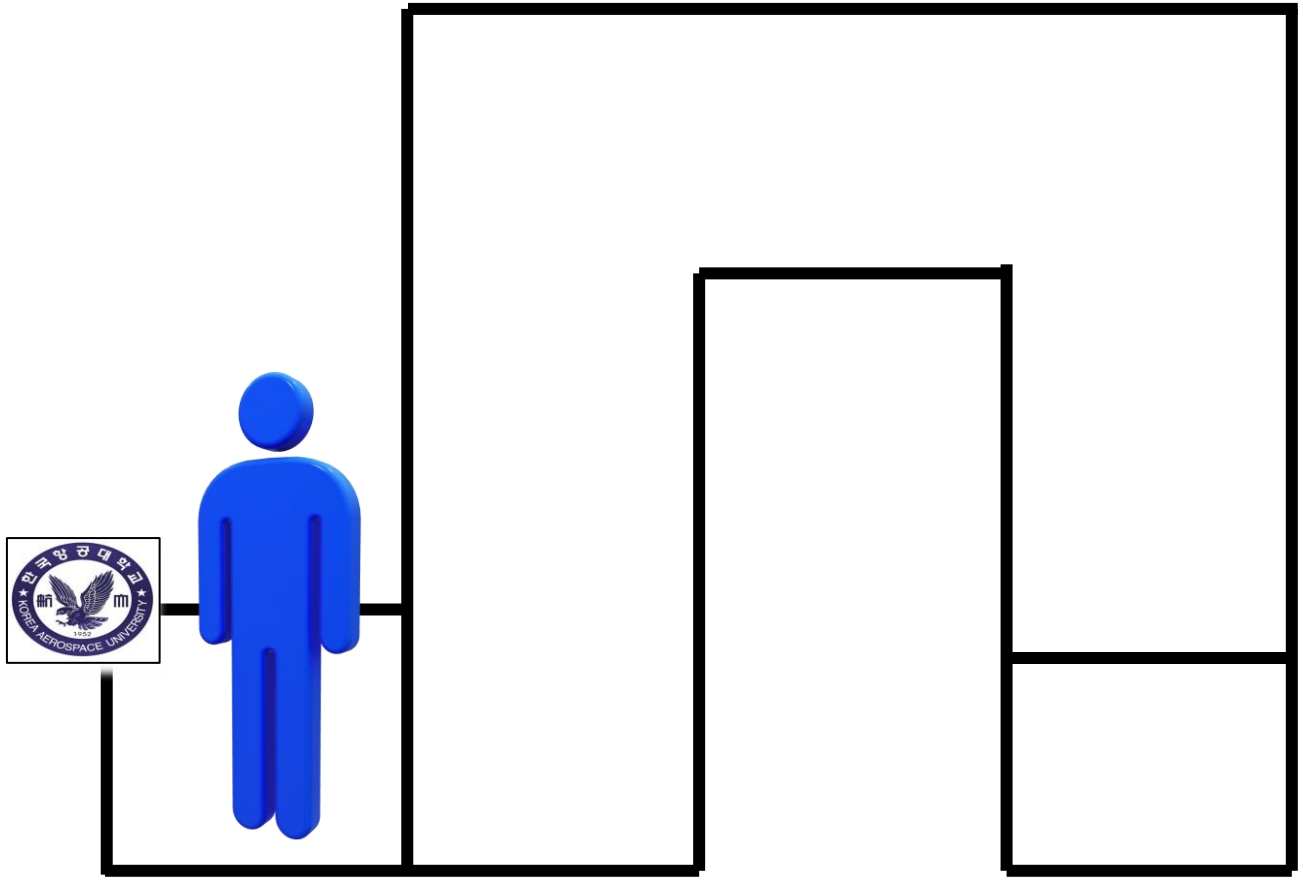



Predicted
True
1
2
3
4
5
6
7
8
9
A380
AH64
F22
KAU
KT1
background FN
background FP
0.95
0.06
0.05
1.00
0.09
1.00
0.09
1.00
0.07
1.00
0.10
1.00
0.21
1.00
0.06
1.00
0.11
1.00
0.10
0.97
0.01
0.88
0.02
1.00
0.01
1.00
0.96
0.06
0.03
0.12
0.04
1.0
0.8
0.6
0.4
0.2
0.0

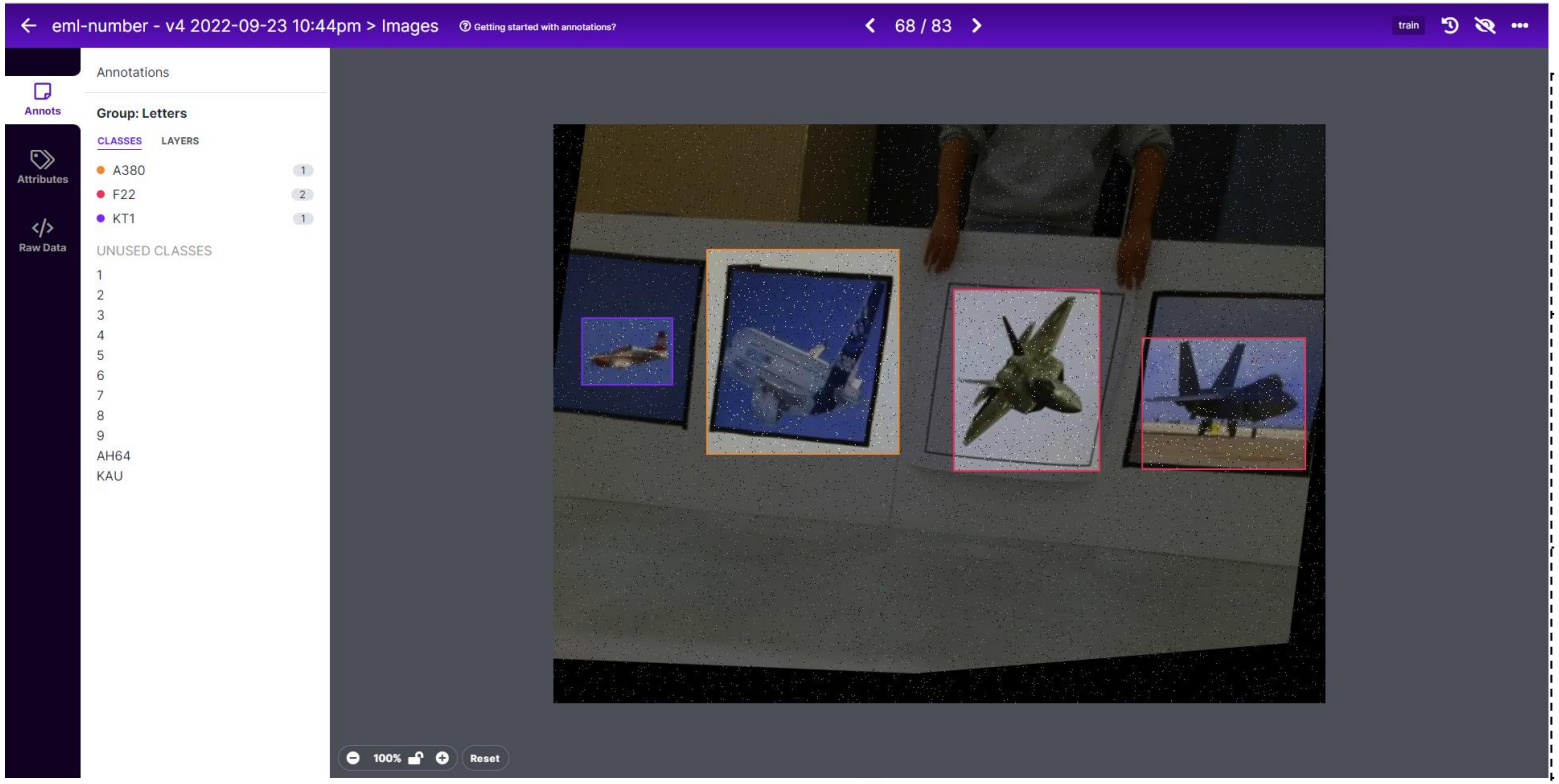
2. Tracking Course



2. Tracking Course



3. Landing Course



The Final Landing Site!!

KT-1

A380

AH-64
Apache

F22

3. Landing Course

KT-1

A380

AH-64
Apache

F22

Emergency!!!

Thank you!
e Emergency Landing