

# 인공지능과 드론

## Human-Drone Interface

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# 인공지능

- 시각지능
- 운동지능
- 학습
  1. 지도학습
  2. 비지도학습
  3. 강화학습

# 드론 (Drone)

- 무인 비행기
- 4개 이상 전동모터 및 회전형 날개장착
- RC(radio control) 이용한 조종-> 많은 연습 필요
- 다방면의 응용가능
- Human-drone interface 를 위한 인공지능
- 자율주행을 위한 인공지능

# 드론의 종류

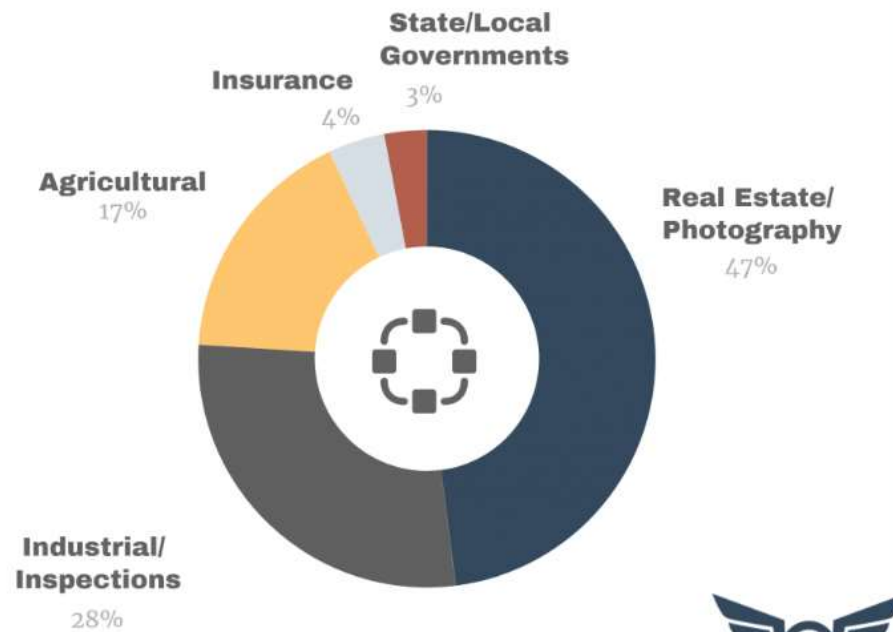
## Examples of Unmanned Aircraft According to Classification



## Summary of Aircraft and Unit Classifications in the *Databook*

# Commercial Drone Use

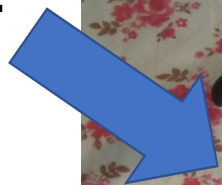
Commercial drones are being used for a variety of purposes.



Source: FAA's Unmanned Aircraft Systems Report



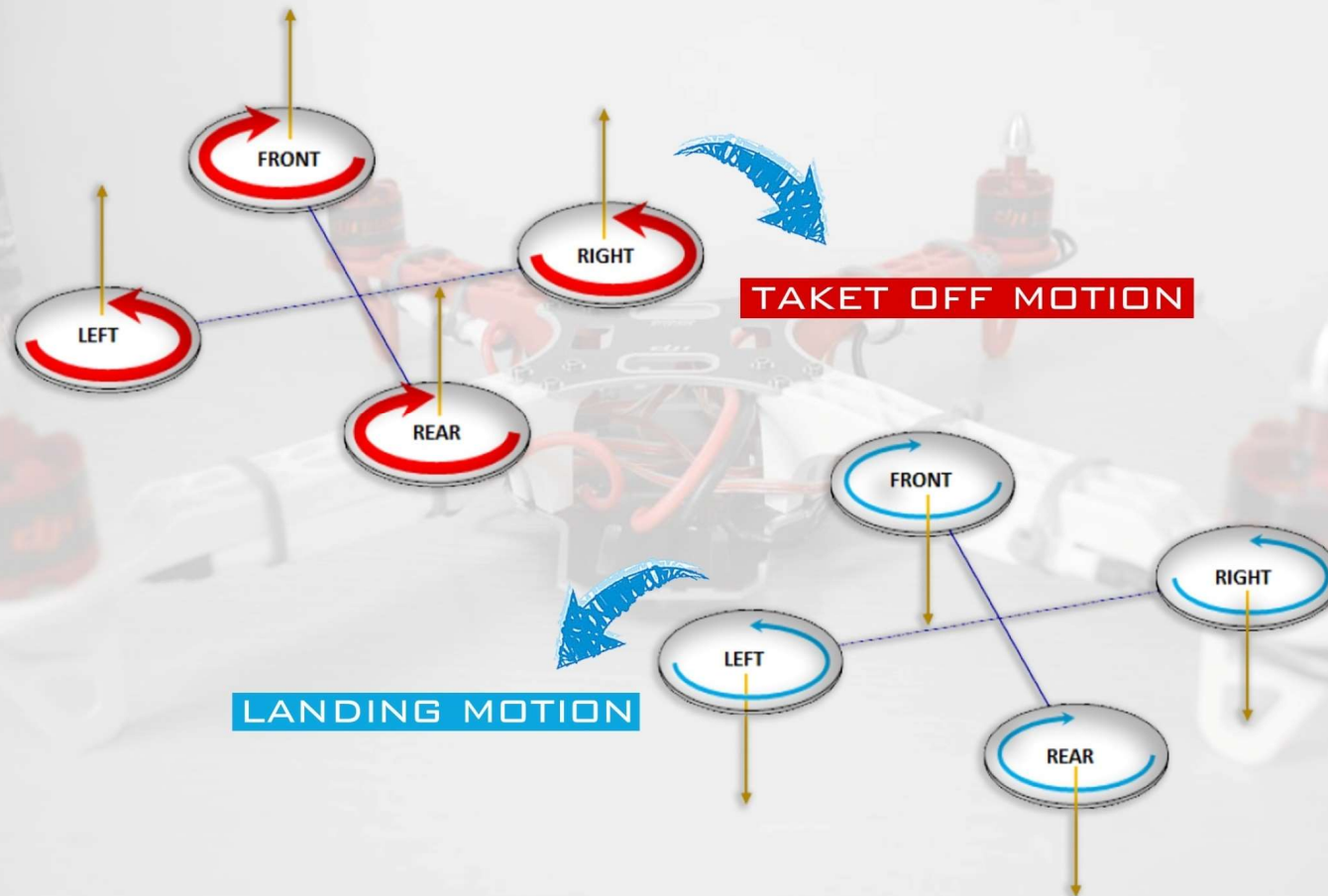
드론



RC

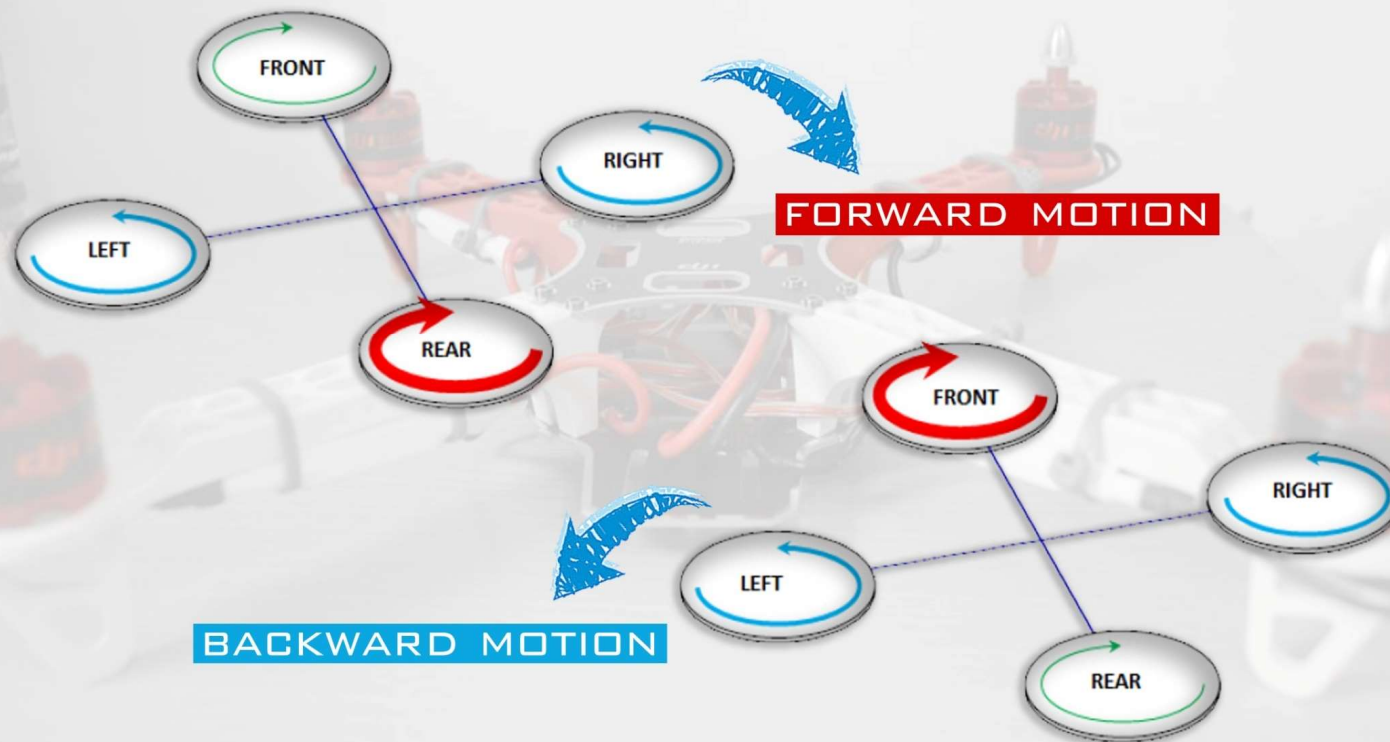


## **WORKING PRINCIPLES:-** MOTOR ROTATION





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About RPI

Calibration

Setting

Direction

Figure

66%

Follow continuously as shown in the diagram until marked as Completed

Left-Foward



Completed

Foward



Completed

Right-Foward



Completed

Left



Completed

Stop



Completed

Right



Completed

Left-Backward



Rotate

Backward



Incompleted

Right-Backward



Incompleted

UP



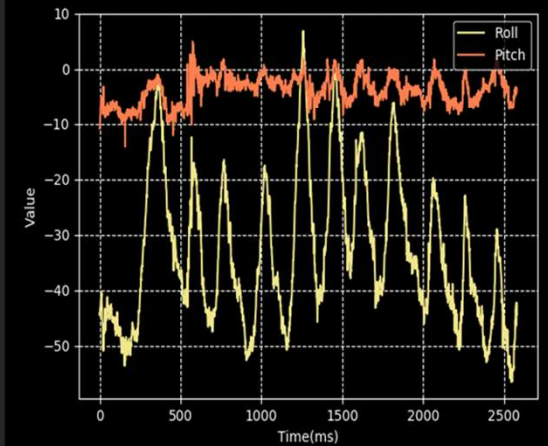
Incompleted

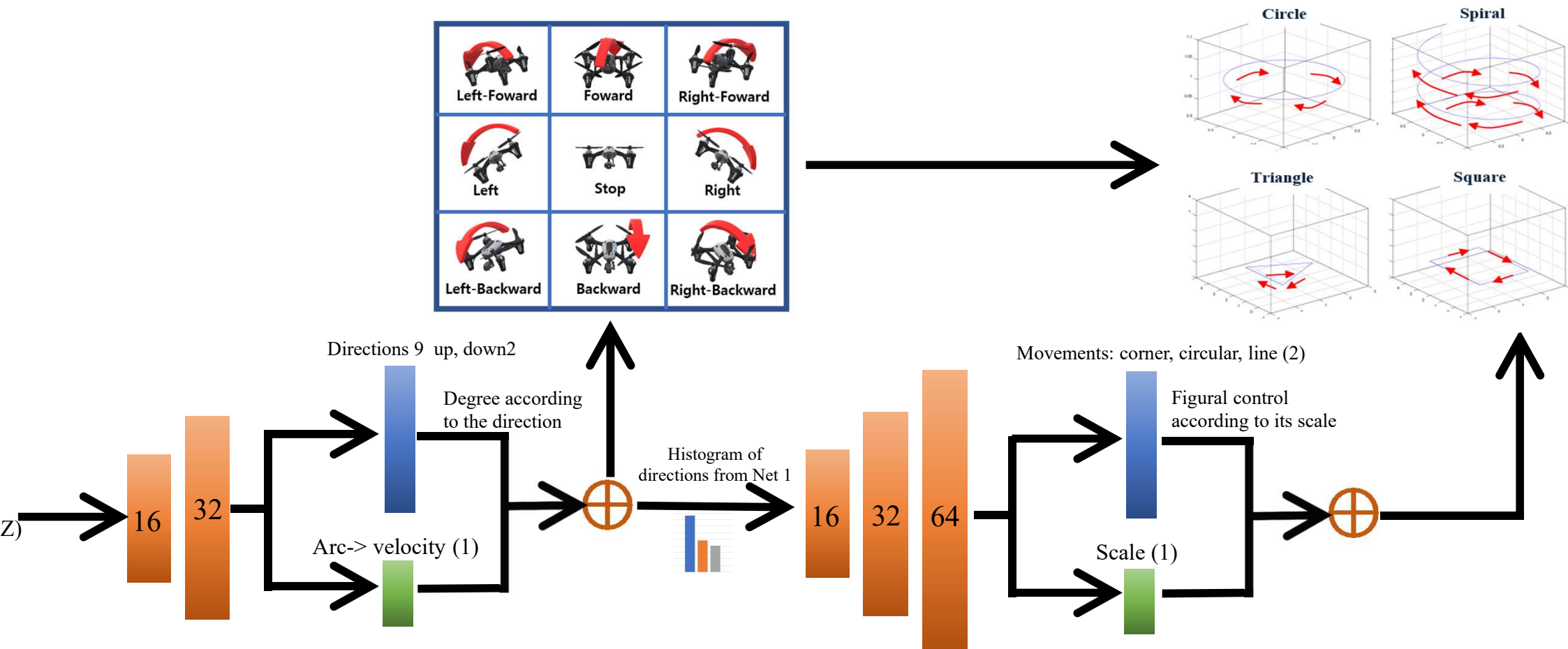
Down



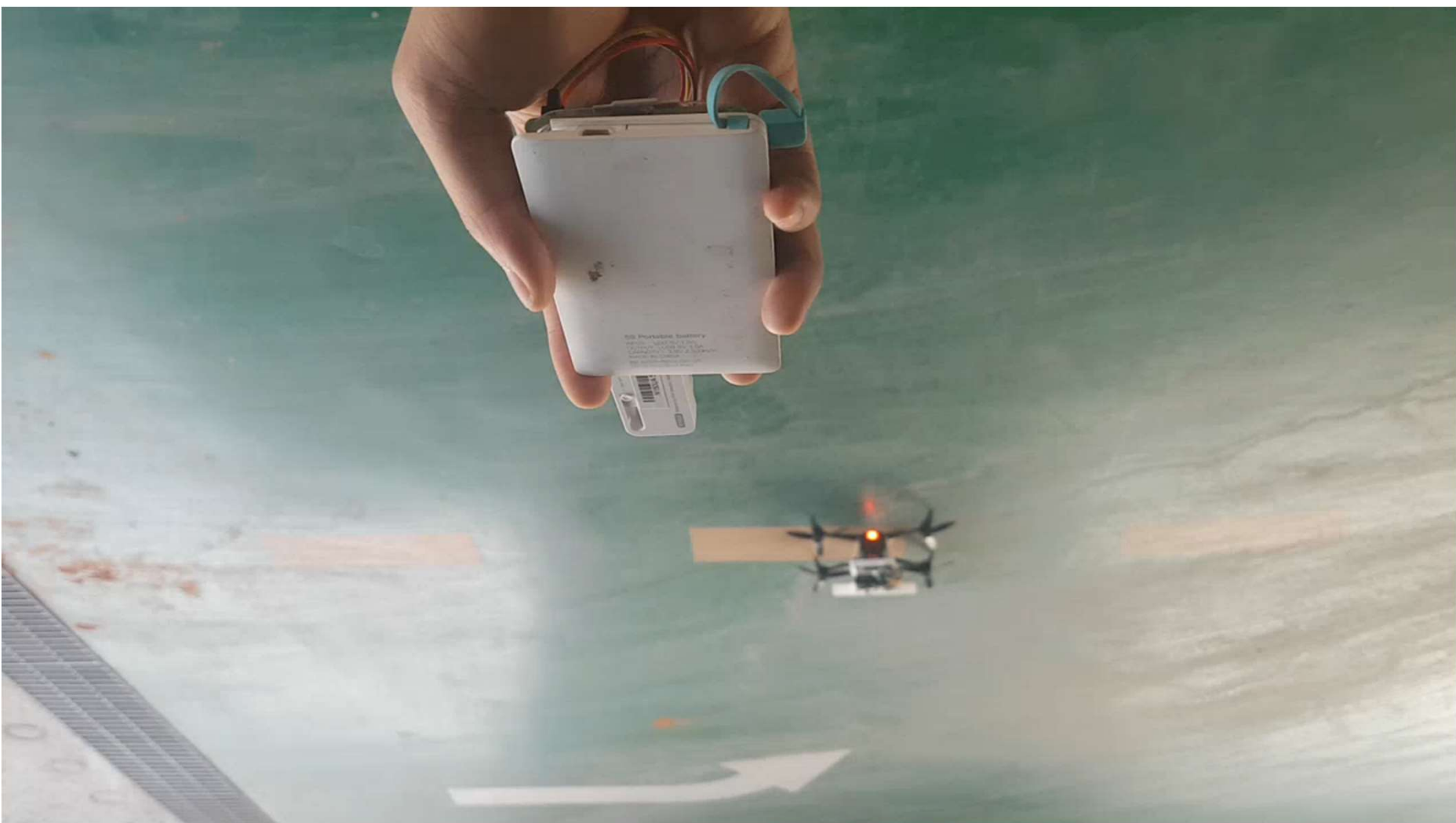
Incompleted

Roll, Pitch Value



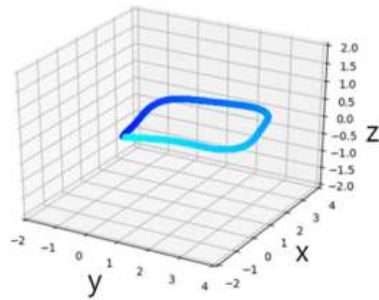




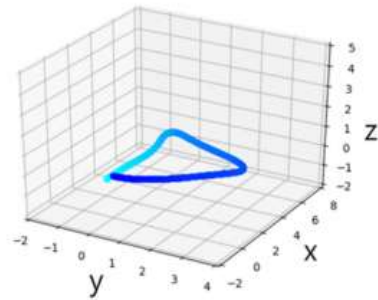


# 기하학적 도형의 드론비행

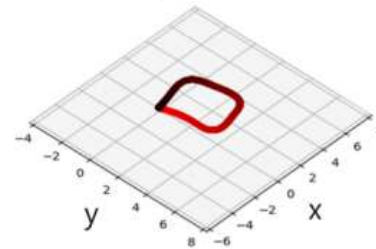
Square-Drone



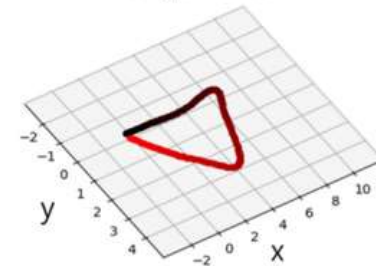
Triangle-Drone



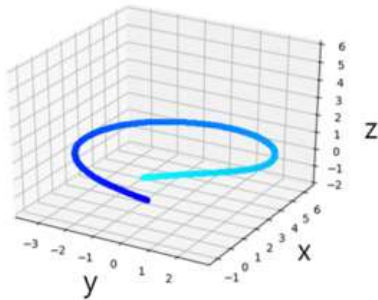
Square-Hand



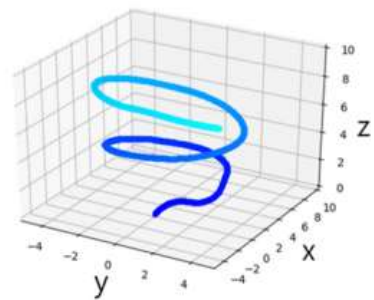
Triangle-Hand



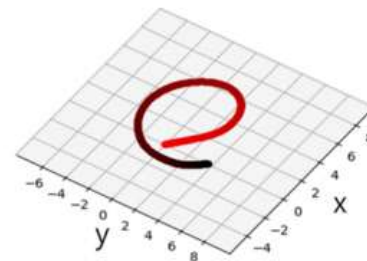
Circle-Drone



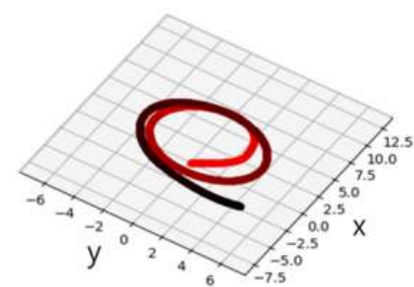
Spiral-Drone



Circle-Hand

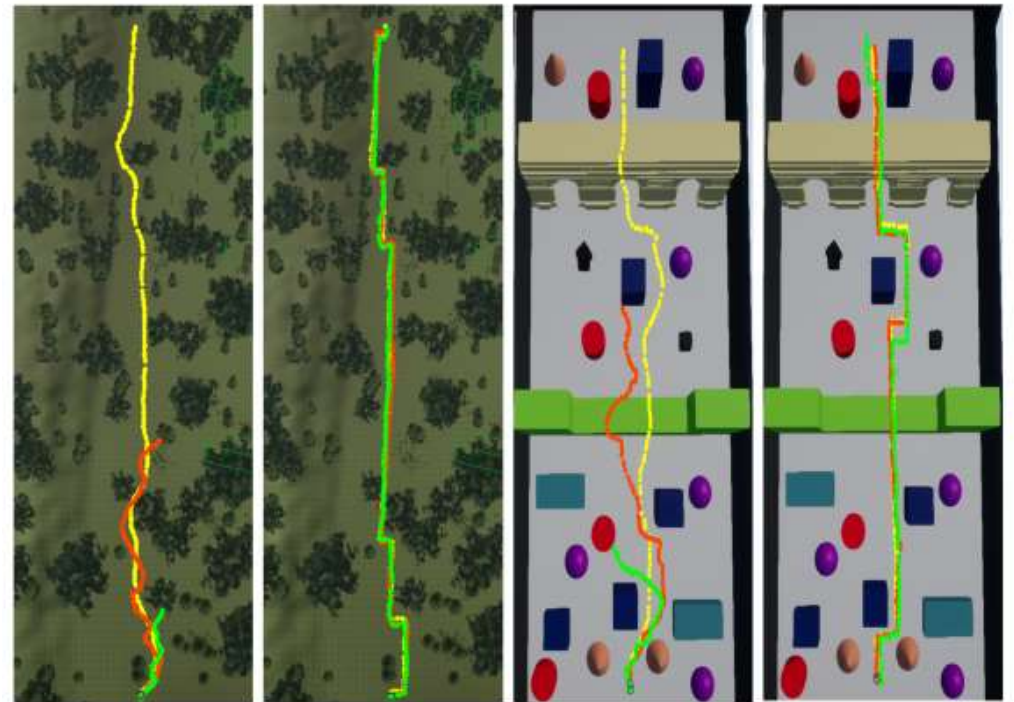
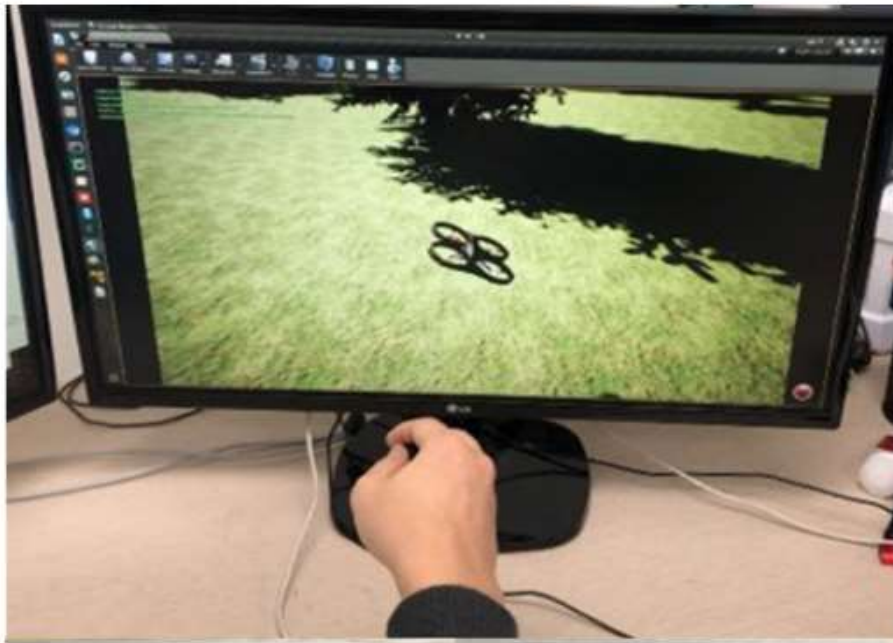


Spiral-Hand





# 가상현실 상의 드론 비행



# Human-drone interface

- RC를 교체하기 위한 인터페이스 개발
- 강화학습 네트워크를 이용한 손포즈-> 명령어 발생
- 방향지시 및 기하학적 비행명령 가능
- 초소형 컴퓨터
- 가상현실드론을 위한 인터페이스