Hello

My name is Keita Taki.

Today, I will show you the flight of a quadrotor.

First, I will talk about the system.

We have a motion capture system here. It gets the position of the drone.

The data goes to a Raspberry Pi 5 by Wi-Fi.

Then, the Raspberry Pi sends the data to a flight controller called Pixhawk 6C.

The Raspberry Pi also sends other commands to the flight controller.

This is a transmitter. We can also control the drone with this.

I use this quadrotor for research about carrying loads.

Now, I will show you how one quadrotor lifts a load.

Please stay there. It is dangerous.

Now, I will start the flight.

This is my research.

Now, I am trying to control the swing of the load with one drone.

I use an observer to estimate the swing without extra sensors.

The observer estimates the force from the load to the drone.

This helps me control the swing with feedback control.

I am implementing this with C++ in ArduPilot, which is an open source drone library.

In the future, I want to use many quadrotors to carry loads together.

This is the end of my explanation.

Thank you very much.