

## **Agenda CENG 5437/4391 April 19, 2022**

**See Text on Course Website CH7 & 9 Flying**

**Class Textbook ROS Robotics By Example**

### **Chapter 7 Flying Robots**

Let's See Some Fun Stuff

**The astounding athletic power of quadcopters | Raffaello D'Andrea 16:08**

<https://www.youtube.com/watch?v=w2itwFJCgFQ>

Ehang – Flying Taxi

<http://www.ehang.com/ehang184>

**UPS Tests Residential Delivery Via Drone**

[https://www.youtube.com/watch?v=xx9\\_6OyjJrQ](https://www.youtube.com/watch?v=xx9_6OyjJrQ)

Adithya shows his stuff!



[Adithya Balaji](#)

<https://www.youtube.com/watch?v=h-UpaKgHc5Y>

**bebop\_autonomy**

ROS driver for Parrot Bebop drone (quadrocopter).

- Documentation: <http://bebop-autonomy.readthedocs.io/>
- ROS wiki page: [http://wiki.ros.org/bebop\\_autonomy](http://wiki.ros.org/bebop_autonomy)
- Support: ROS Q&A (tag: bebop\_autonomy)
- Developer Forum: <https://trello.com/b/C6rNI8Ux>
- Code API: [http://docs.ros.org/indigo/api/bebop\\_autonomy/html](http://docs.ros.org/indigo/api/bebop_autonomy/html)

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### **UHCL Center for Robotics Software**

Bharadwaj Attluru has developed a ROS program that will control Bebop's flight using an object (like a basketball). The control algorithm keeps the object within the center of Bebop's camera image. This program uses OpenCV and Python.

<https://www.youtube.com/watch?v=Ab3wtKs72sM>

## **CHAPTER 7 IN TEXTBOOK**

Page 313 Quadcopters

<https://en.wikipedia.org/wiki/Quadcopter>



### **Drone Simulation and Control, Part 1: Setting Up the Control Problem**

173,380 views Oct 16, 2018 14:11 MATLAB Tech Talk

<https://www.youtube.com/watch?v=hGcGPUqB67Q>

### **Drone Simulation and Control, Part 2: How Do You Get a Drone to Hover?**

94,891 views Oct 23, 2018 13:22 MATLAB Tech Talk

<https://www.youtube.com/watch?v=GK1t8YIvGM8>

## CHAPTER 9 IN TEXTBOOK

### FLYING A MISSION WITH CRAZYFLIE

<https://hub.packtpub.com/using-ros-uavs/>

