

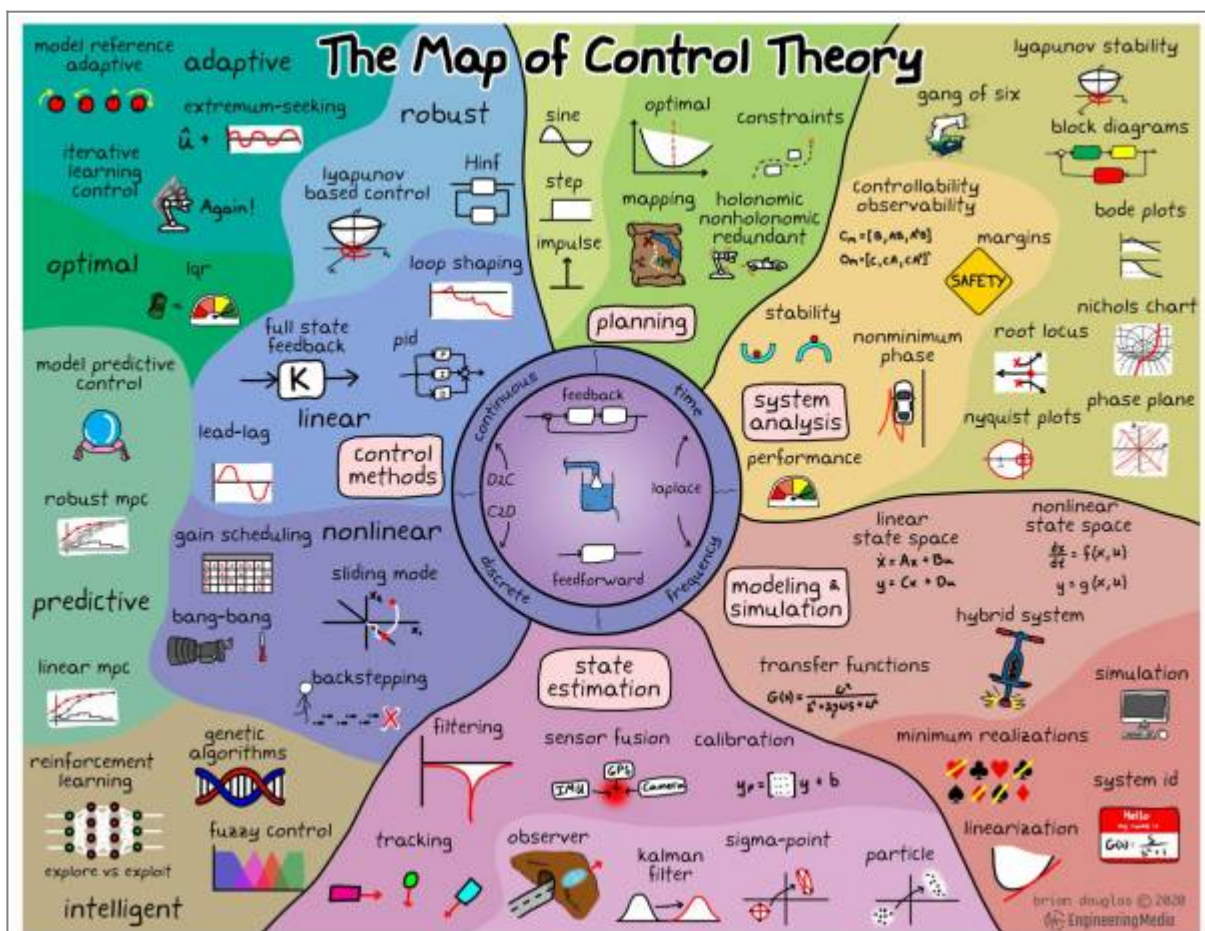
# EMRP2022

Topics: Wireless sensor networks to collect environmental data, Interactive web dashboards and databases to display data, Drone technology, sensor integration, and image analysis

## Closed loop control

### PID Control Theory

[https://www.youtube.com/watch?v=wkfEZmsQqiA&list=PLn8PRpmsu08pQBjxYFXSsODEF3Jqmm-y&a\\_b\\_channel=MATLAB](https://www.youtube.com/watch?v=wkfEZmsQqiA&list=PLn8PRpmsu08pQBjxYFXSsODEF3Jqmm-y&a_b_channel=MATLAB)



<https://engineeringmedia.com/map-of-control> Fig. 1

### Inverted Pendulum with PID

#### Optimal control of inverted pendulum system using PID controller, LQR and MPC

<https://iopscience.iop.org/article/10.1088/1757-899X/263/5/052007/pdf>

## Stabilising an Inverted Pendulum Controller with PID controller

[https://www.matec-conferences.org/articles/mateconf/pdf/2018/11/mateconf\\_eureca2018\\_02009.pdf](https://www.matec-conferences.org/articles/mateconf/pdf/2018/11/mateconf_eureca2018_02009.pdf)

## Control the Ryze Tello Drone from Python

- **tello-pathon** code by Harley Lara:  
<https://github.com/harleylara/tello-python>
- **RyzeTelloHSRW** code by Ilgar Rasulov (EligoSoftware):  
<https://github.com/eligosoftware/ryzetellohsrw>

### git

git for dummies (eli5): [https://www.youtube.com/watch?v=mj-qvsxPHpY&ab\\_channel=NickWhite](https://www.youtube.com/watch?v=mj-qvsxPHpY&ab_channel=NickWhite)

git for professionals:

[https://www.youtube.com/watch?v=Uszj\\_k0DGsg&ab\\_channel=freeCodeCamp.org](https://www.youtube.com/watch?v=Uszj_k0DGsg&ab_channel=freeCodeCamp.org)

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