

EE361. Feedback Control Systems

Lectures on “Control Engineering for Environment & Sustainability”

Spring 2015. Abubakr Muhammad

Lecture #5. Robotics & Control in Agriculture (Part 2)

Agricultural Robotics

1. What type of robotic platforms are being developed for agricultural applications?
2. What are the important types of sensors for inspection tasks at farms?
3. How do robotic platforms perform weed elimination?
4. How are robots being used in horticulture?
5. What is robot motion planning? Give examples in Agriculture.
6. What is robot vision? Give examples in Agriculture.
7. What is the main problem associated with sedimentation in irrigation channels?
8. What is structural inspection? How are aerial drones used for it?

Robotics & Automation Technologies in Developing World Settings

9. How does automation help scale solutions across space, time and expertise?
10. What kinds of scaling problems are faced by a country like Pakistan?
11. What is the relationship of productivity with farm size in current Ag practices?
12. What are the current trends for farm sizes in Pakistan and the developing world?
13. Why does Precision Agriculture favor large farm sizes and corporate agriculture?
14. What unique opportunities are offered by Ag Robotics to small farmers?