ECE666 Topics in Robotics

Description: Students in this course will be required to read and critique recently published research papers in robotics.

Prerequisite: ECE555 or permission of instructor.

Text: Recent papers from the *IEEE Transactions on Robotics and Automation, IEEE Conference on Robotics and Automation,* or comparable sources available via CSU libraries

Learning Objectives:

1. Summarize current state-of-the-art in a selected field of robotics.

2. Critically analyze technical manuscripts submitted for review.

3. Distinguish between evolutionary advances and seminal work.

4. Design effective technical presentations

Content: Will vary each semester based on the interests of the current student population.
Examples topics include:

1. Robot locomotion
2. Motion planning
3. Manipulation
4. Sensing (visual/haptic/proximity)
5. Anthropomorphic robots
6. Robots in unstructured environments (space, underwater, service)
7. Human/robot interaction
8. Internet robotics
9. Virtual reality
10. Medical robotics

Weekly Schedule:

1. How to assess state of the art (citations, impact, etc.)

2. Peer review process

3. Assessing technical papers/proposals

4. Elements of quality technical presentations

5-16. Student technical presentations and critiques

Method of Evaluation:

25% Annotated Bibliography/Survey of Related Work
25% Paper Reviews
50% Paper Presentations