

CSCI445: Introduction to Robotics

Course Coordinator

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Other instructors for course

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Textbooks and other required materials

The Robotics Primer

By Maja Mataric

Major Topics

1. Gears and Motors
2. Effectors and Actuators
3. Sensors (PID Algorithm)
4. Image Processing
5. Feedback control
6. Control Architectures
7. Saliency Algorithm
8. Processing and Classifying Sensor Data (PCA, k-NN, SVM, biological inspiration)
9. Object Recognition (SIFT Algorithm)
10. Robot Learning (Emergent behavior, communication in groups,...)
11. Basic Navigation Algorithm
12. Current Robotics and Future Trends