
Computer Science Colloquium

Autonomous Mobile Manipulation: Robots That Interact With Their Environment

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Wednesday, 26 April 2006
Olsen 311
Refreshments at 2:30, Talk from 3:00-4:00

Robots are beginning to operate in everyday environments such as office buildings and homes. However, these robots currently only perform highly specialized tasks. To create robots capable of performing flexible manipulation tasks autonomously, it will be necessary to advance the state of the art in a number of areas. In this talk, I will present recent advances in robot motion planning and control aimed at the specific requirements of autonomous mobile manipulation. These requirements include the ability to react to changes in the environment and to maintain kinematic and dynamic constraints without affecting task execution. Currently, these algorithms have been validated in simulation. In the future, we intend to apply them on an experimental platform for mobile manipulation currently under construction in our lab. I will also present some initial results from this construction effort.