Planning Motions of Robots and Molecules

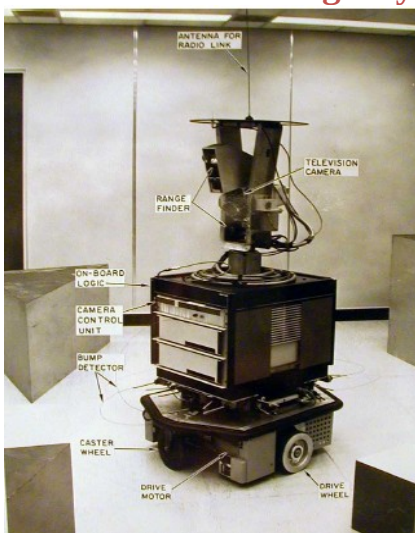
CS 689 – Spring 2012

Instructor: Amarda Shehu amarda/AT/gmu.edu cs.gmu.edu/~ashehu

Course will address questions:

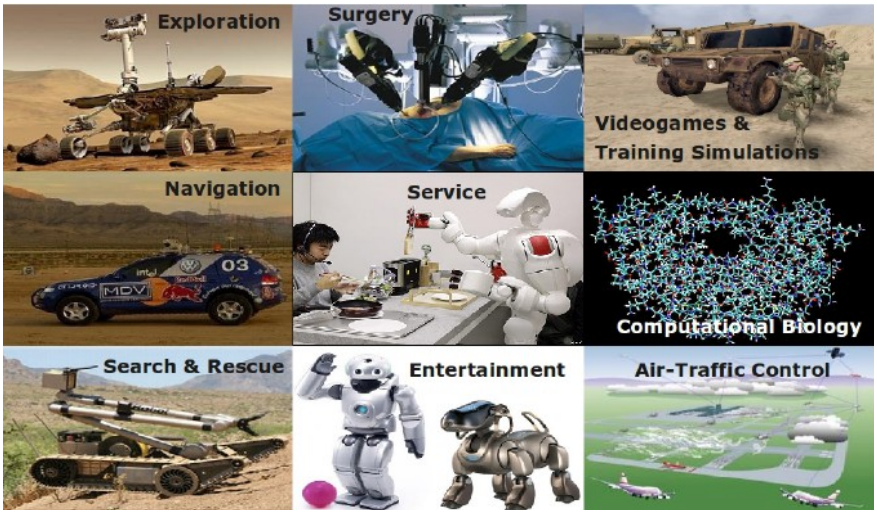
- *How can a robot automatically plan and execute a sequence of motions that avoids collision with obstacles and accomplishes assigned tasks?*
- *How can a robot use sensor-based information to determine its own state and model the world?*

We have come a long way from this



We are not here yet… (iRobot)

But we are getting better at this



Topics will include planning with kinematic and dynamic constraints, sensor-based planning, manipulation and assembly planning, planning under uncertainty, and robotics-inspired methods for planning motions of biological molecules.

Offered @ Fairfax campus
Prerequisite: CS583