

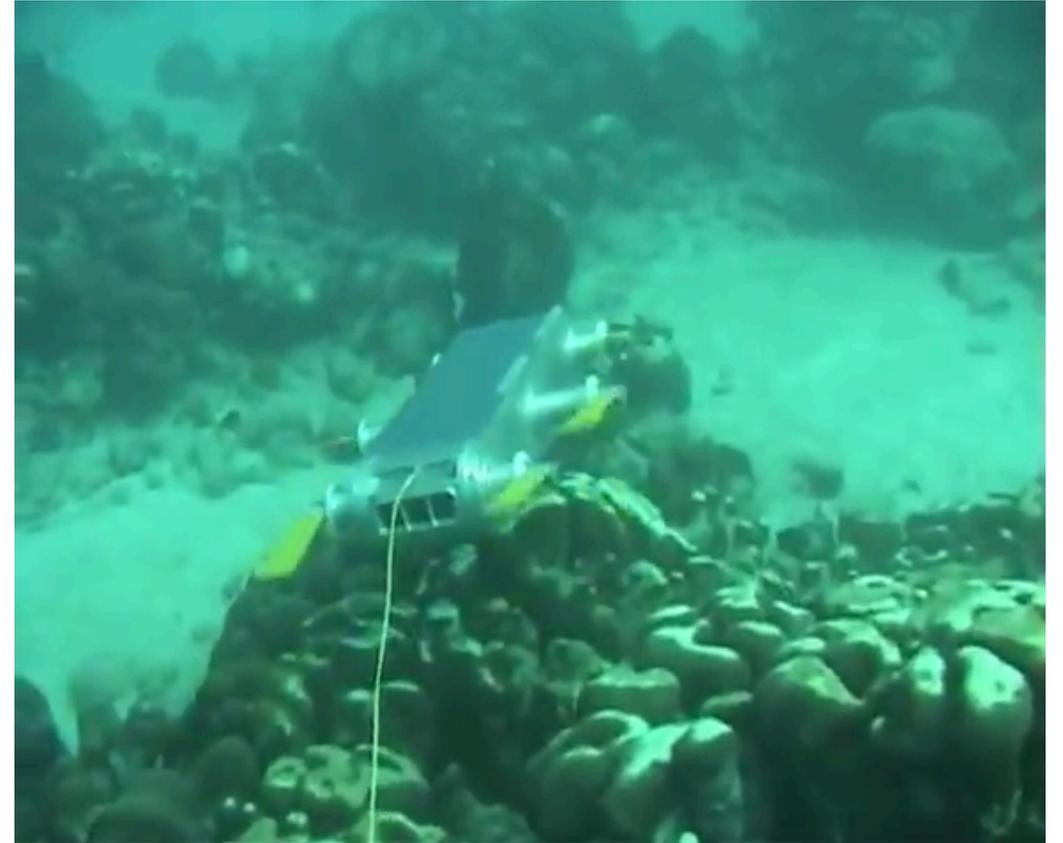
Robot hardware

Robot design strategies

# Tradeoffs are everywhere!

A good robot design must balance many elements.

- space
- weight
- power
- cost
- durability
- maintainability
- accuracy
- reliability
- ...



# Two strategies

When choosing the hardware to include on a robot, we can take at least two different approaches.

**Option 1:** We can (try to) to **eliminate** issues by adding or improving devices.



Talos, MIT; manipulators, Kuka

## Two strategies

When choosing the hardware to include on a robot, we can take at least two different approaches.

**Option 2:** We can choose more modest hardware and design algorithms to make good decisions **in spite of** those limitations.



Roomba, iRobot; Sawyer, Rethink Robotics