A typical task and motion planner

current state

pick(block)   push   pour(cup)

height
angle

3 inch
20°

4.5 inch
45.9°

5 inch
90°

…   …
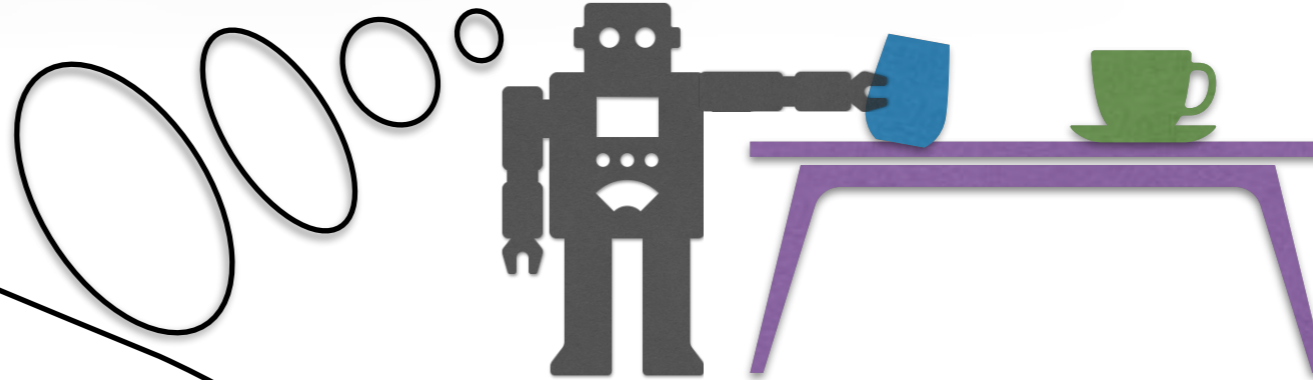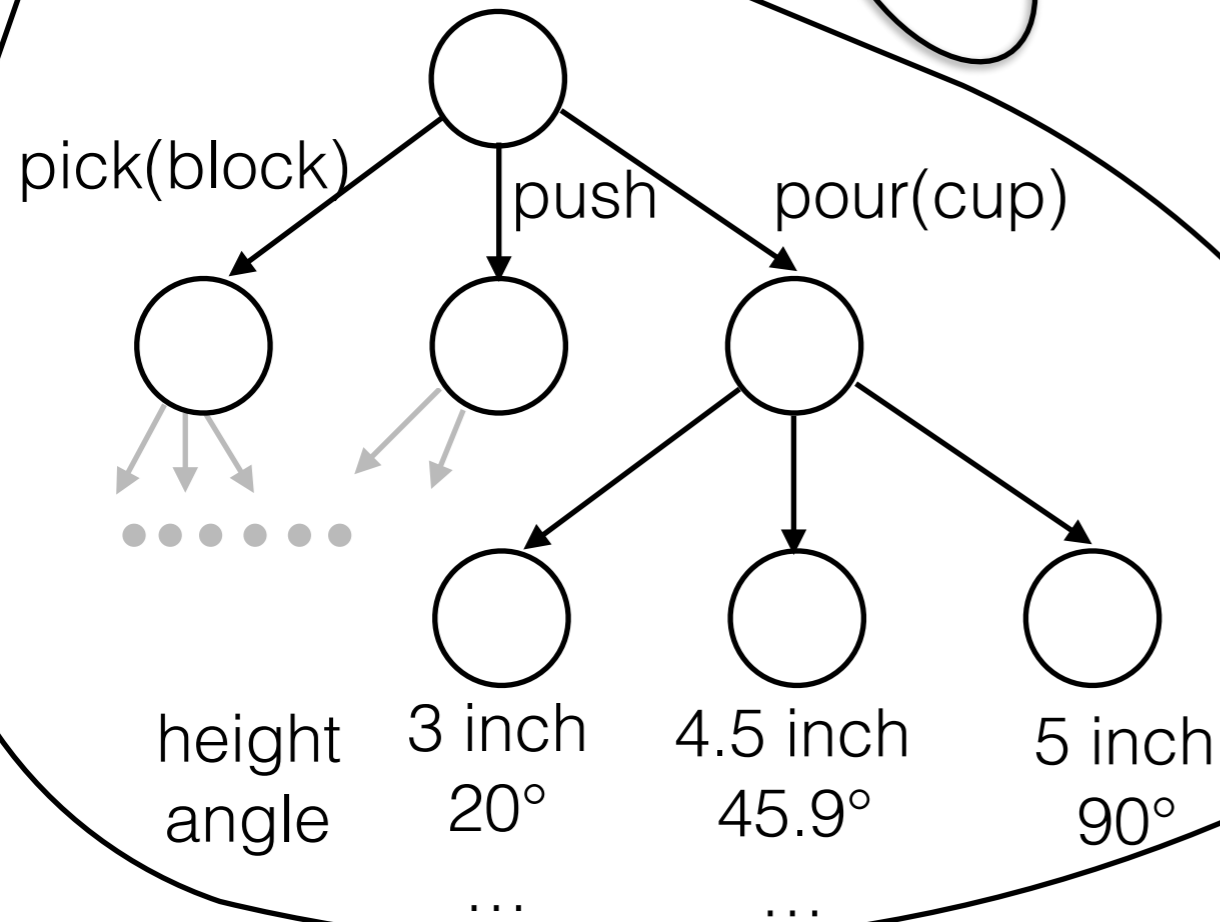
Key subroutines

- Sample continuous action parameters
- Tree search on both discrete and continuous variables

Challenges in TAMP

- how to acquire new low-level motor skills?

  [Levin et al., ISER 2016] [Schenck et al., CoRL 2017] [OpenAI, 2018] [Ebert et al., CoRL 2017]......

def skill(parameters):
execute policy
until termination

gripper preshape, objects, object shapes, etc

How to use them?