- What is the object on the counter, which properties does it have?
- Have I seen it somewhere before?
- Where shall I grasp this object to pick it up?
- Does this grasp feel stable?

Object recognition and localization

Action success monitoring

Knowledge-based task specification

Generation of robot plans

Plan-based robot executive

- Which control structures allow robust execution?
- How can abstract parameters be grounded?

Constraint- and optimization-based controllers

- How does the robot need to move to flip a pancake?
- Which motion constraints have to be considered?

