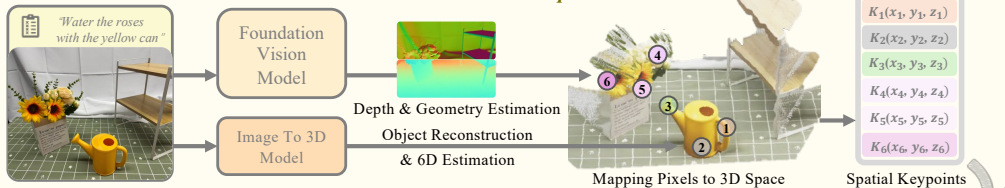


From Pixels to Structured 3D Representations



Spatial Motion Planning for Behavior Generation

Implement this task as a robot control function in Python.

```
robot.grasp(K_1)
robot.ee.move(K_1 + [0, 0, 0.2])
robot.ee.move(K_4 + [0, 0, 0.1] + K_1 - K_3)
robot.ee.rotate(pi / 6)
```

Low-Level Execution Signals

Please create a task plan for the robot.

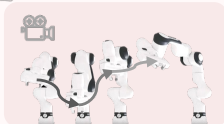
```
Step 1: Grasp the can at  $K_1$ 
Step 2: Raise  $K_1$  by a height of 0.2
Step 3: Lift  $K_3$  at 0.1 above  $K_4$ 
Step 4: Rotate gripper  $30^\circ$  along horizon.
```

High-Level Task Planning



Annotated Raw Image

Visuomotor Experiences Synthesis for Robot Learning



Motion Control in Simulation

Rendering
Depth to Points



Robot-Scene Point Cloud Concatenation



Rendering of Point Cloud Sequences

Generating

Joint State
End-Effector Pose
End-Effector State

Generated Robot Actions



Generated Visual Observations