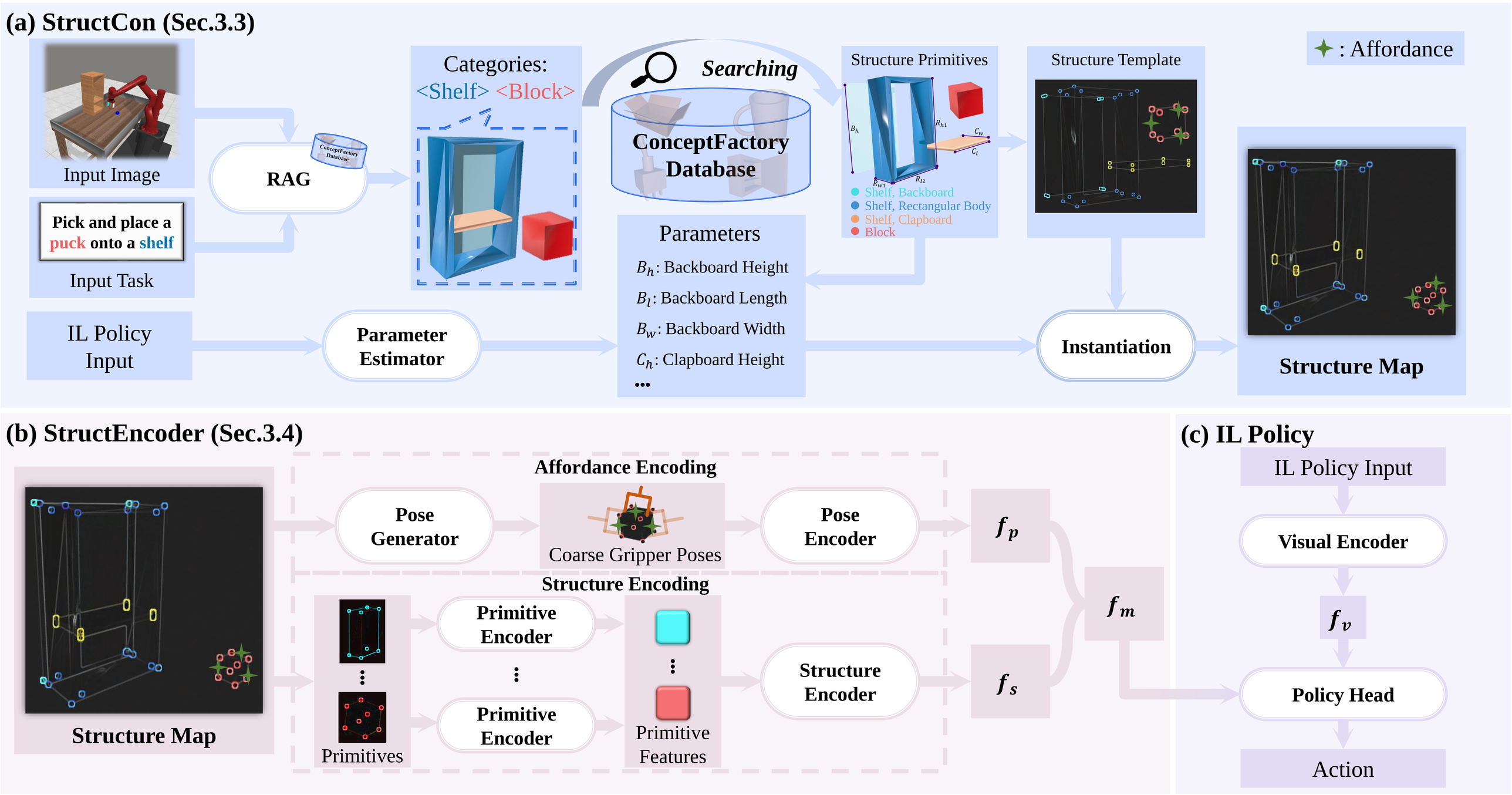
(a) StructCon (Sec.3.3)
: Affordance
Input Image
Pick and place a puck onto a shelf
Input Task
IL Policy Input
RAG
ConceptFactory Database
Categories:
<Shelf> <Block>
Searching
ConceptFactory Database
Parameter Estimator
Parameters
B_h: Backboard Height
B_l: Backboard Length
B_w: Backboard Width
C_h: Clapboard Height
...
Structure Primitives
Shelf, Backboard
Shelf, Rectangular Body
Shelf, Clapboard
Block
Structure Template
Instantiation
Structure Map
(b) StructEncoder (Sec.3.4)
Structure Map
Affordance Encoding
Pose Generator
Coarse Gripper Poses
Pose Encoder
Structure Encoding
Primitives
Primitive Encoder
Primitive Encoder
Primitive Features
Structure Encoder
f_p
f_s
f_m
(c) IL Policy
IL Policy Input
Visual Encoder
f_v
Policy Head
Action