Appendix A. Experiments: Ontology Knowledge Retrieval

Table 9. The KnowRob Ontology retrieval results with SWI-Prolog for the action verb_noun pairs. *sub-ClassOf* means that the subject is a subclass of a class. The second column represents the query format in SWI-Prolog, and the third column shows the retrieved Object information, which can be used as the external knowledge text.

Verb	('ChoppingSomething', *subClassOf*, Object)	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#CuttingInPieces'.
	('Cracking', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#PreparingFoodOrDrink'; Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#SeparationEvent';
	('OpeningSomething', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#ActionOnObject'; Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#IntrinsicStateChangeEvent'; Object = '_:file:///KnowRob.owl#_:Description89'; Object = '_:file:///KnowRob.owl#_:Description90'.
	('ClosingSomething', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#ActionOnObject'; Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#IntrinsicStateChangeEvent'; Object = '_:file:///KnowRob.owl#_:Description18'; Object = '_:file:///KnowRob.owl#_:Description19'.
	('BakingFood', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#Baking-Hardening' Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#CookingFood'; Object = '_:file:///KnowRob.owl#_:Description5'; Object = '_:file:///KnowRob.owl#_:Description6'; Object = '_:file:///KnowRob.owl#_:Description7'.
	('Boiling', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#Vaporization' Object = '_:file:///KnowRob.owl#_:Description8'.
	('CookingFood', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#HeatingProcess'; Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#PreparingFoodOrDrink'; Object = '_:file:///KnowRob.owl#_:Description31'; Object = '_:file:///KnowRob.owl#_:Description32'.
	('Mixing', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#Incorporation-Physical'; Object = '_:file:///KnowRob.owl#_:Description83'; Object = '_:file:///KnowRob.owl#_:Description84'.
	('Stirring', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#PreparingFoodOrDrink'.
	('CuttingSomething', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#SeparationEvent'.
Noun	('Bag', *subClassOf*, Object)	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#PackagingContainerProduct'.
	('Box', *subClassOf*, Object)	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#SpatialThingTypeByShape'.
	('Chair', *subClassOf*, Object)	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#SupportingFurniture'.
	('Cup', *subClassOf*, Object)	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#DrinkingVessel'.
	('Door', *subClassOf*, Object)	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#DoorwayCovering'.
	('Drawer', *subClassOf*, Object)	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#StorageConstruct'.
	('Egg-Chicken', *subClassOf*, Object)	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#Food'.
	('Meat', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#Perishable' Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#MeatOrLegumeFood';
	('Soup', *subClassOf*, Object).	Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#Food' Object = 'http://ias.cs.tum.edu/kb/KnowRob.owl#LiquidTangibleThing';

Appendix B. Experiments: Prompts

We developed similar prompts for two action-effect prediction datasets. In Table 10, we show examples of three kinds of prompts for each dataset: without knowledge prefix, with ConceptNet knowledge prefix and with KnowRob knowledge prefix for the 1400 Action-Effect pairs dataset; without knowledge prefix, with Comet knowledge prefix and with KnowRob knowledge prefix for the 1400 Action-Effect pairs dataset;

Table 10. Formatted prompting examples for our action effect prediction task. The **Knowledge** column lists three different settings for promts: 'None' denotes using only action descriptions as input, 'KnowRob' denotes using action descriptions together with knowledge learnt from KnowRob as input, 'ConceptNet' denotes using action descriptions together with knowledge learnt from ConceptNet as input, 'Comet' denotes using action descriptions together with knowledge learnt from Comet as input. The **1-shot Prompts** column report example prompts for one query.

Knowledge	1-shot Prompts
1400 Action-Effect pairs	
None	The person throw baseball. As a result, the ball moves from its initial stationary location to then being propelled upwards and or forwards via the physical action of an individual. The person wrap book. As a result,
Comet	Throw baseball causes it to fall flat. The person throw baseball. As a result, the ball moves from its initial stationary location to then being propelled upwards and or forwards via the physical action of an individual. Wrap book causes you can open it. The person wrap book. As a result,
KnowRob	Throw means propel something with force. Baseball means sport. The person throw baseball. As a result, the ball moves from its initial stationary location to then being propelled upwards and or forwards via the physical action of an individual. Wrap means covering an object with a material. Book means a written or printed work. The person wrap book. As a result,
PIGLET	
None	The robot is holding a bowl full of water next to the sink. The robot pours out the water. Therefore, the bowl is now empty. The robot is standing near a light switch that is on. The robot turns off the light switch. Therefore
ConceptNet	Flow is the opposite of hold. Water can flow. It cannot be both full and empty. Crowd is the opposite of empty. Pour is a specific way of doing crowd. Drop is the opposite of hold. Drop is the opposite of pour. The robot is holding a bowl full of water next to the sink. The robot pours out the water. Therefore, the bowl is now empty. People can stand. Machine is the opposite of people. Robot is a type of machine. Human can stand. Machine is the opposite of human. Robot is a type of machine. Fall is the opposite of stand. Light and fall have similar meanings. The robot is standing near a light switch that is on. The robot turns off the light switch. Therefore,
KnowRob	Water means liquid, substance, necessary for life. Pour means transfer liquid from one container to another. Robot means man-made, machine that can do work or perform tasks automatically. The robot is holding a bowl full of water next to the sink. The robot pours out the water. Therefore, the bowl is now empty. Light means electromagnetic radiation, visible light. Turn means change of orientation. Robot means man-made, machine that can do work or perform tasks automatically. Switch means device for controlling the flow of electricity. The robot is standing near a light switch that is on. The robot turns off the light switch. Therefore,