

6. Appendix



Selected objects:
sink cup television

CGO:

sink: a bathroom with a sink and a mirror

cup: a bathroom with a tub and a cup

television: a bathroom with a tub and a television



Selected objects:

motorcycle car truck

CGO:

motorcycle: a motorcycle parked on the side of a road

car: a motorcycle parked next to a car on a street

truck: a truck parked on the side of a road



Selected objects:

laptop person chair table cup

CGO:

laptop: a man sitting at a desk working on a laptop

person: a person sitting at a desk with a laptop

chair: a man sitting in a chair with a laptop

table: a man sitting at a table with a laptop

cup: a cup and a laptop on a desk



Selected objects:

broccoli table

CGO:

broccoli: a plate of food with broccoli and meat

table: a close up of a plate of food on a table



Selected objects:

train person

CGO:

train: a train is on the tracks with a sky background

person: a locomotive with a person on the back of it



Selected objects:

person skateboard car backpack

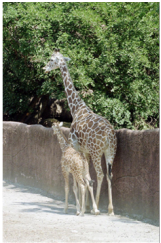
CGO:

person: a person on a skateboard on a street

skateboard: a man that is standing on a skateboard

car: a man riding a skateboard in front of a car

backpack: a man on a skateboard with a backpack on



Selected objects:

giraffe

CGO:

giraffe: an adult giraffe and a baby

giraffe standing next to each other



Selected objects:

car clock truck

CGO:

car: a car is parked on the side of the street

clock: a clock on a pole on a city street

truck: a truck is on the side of a street



Selected objects:

cup table donut

CGO:

cup: a plate of food and a cup of coffee

table: a plate of food that is sitting on a table

donut: a cup of coffee and a donut on a plate



Selected objects:

person chair bottle refrigerator

table clock

CGO:

person: a person sitting in a chair in a kitchen

chair: a man sitting in a chair in a kitchen

bottle: a bottle of wine sitting on a table in a kitchen

refrigerator: a refrigerator a table a table and a table

table: a man sitting at a table in a kitchen

clock: a man sitting in a kitchen with a clock on the wall

Figure 8. Additional examples of descriptions for selected objects (in subsection 4.1). Errors in descriptions are underlined. The object at the beginning of each line in CGO results denotes the guiding word used for that description.



a bus driving down a street next to a traffic light



a herd of zebra standing on top of a dirt field



a tennis player with a racket on a court



a woman is holding a racket on a sidewalk



a bouquet of flowers in a bottle on a shelf



a young boy playing with a suitcase on the sidewalk



a kitchen with a microwave and a refrigerator



a piece of pizza on a plate with a fork



a cat sitting inside of a bottle on a floor



a train bus is parked on the side of a road



a pizza with a face on it and a knife



a man standing in front of a bus with a bag on his head



novel object: racket
a woman in a white shirt is playing tennis



a blue bottle with a train on the side of it



a zebra grazing in a field with a field



a zebra standing next to a statue of a giraffe

Figure 9. Additional examples of descriptions for novel objects in MSCOCO (in subsection 4.3). The novel objects are in blue. Some failure cases (underlined) include wrong descriptions of relationships between objects, hallucinatory objects (in the third row), wrong objects contained in descriptions caused by errors in object classification(bottom left) and other caption errors (bottom right).



n01534433
Guiding Object: **junco**
Base model: a bird is standing in the grass next to a tree
CGO: a **junco** is standing in the grass next to a tree



Base model: a bird perched on a tree branch in a forest
CGO: a **junco** perched on a tree branch in a forest



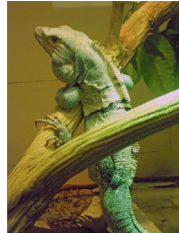
n01630670
Guiding Object: **newt**
Base model: a green and white photo of a green tree
CGO: a **newt** and a plant in a garden



Base model: a close up of a person in a bowl
CGO: a **newt** is in a bowl with a UNK



n01677366
Guiding Object: **iguana**
Base model: a small bird and a bird are in the grass
CGO: a **iguana** and a bird are in the grass



Base model: a green bear sitting on top of a tree branch
CGO: a statue of a **iguana** sitting on a tree branch



n01440764
Guiding Object: **tench**
Base model: a person holding a bird in their hand
CGO: a hand that is holding a **tench** in their hand



Base model: a man holding a green frisbee in his hand
CGO: a man holding a **tench** in his hand



n02281787
Guiding Object: **lycaenid**
Base model: a small bird is perched on a branch
CGO: a bird sitting on top of a **lycaenid**



Base model: a bird is sitting on a of a table
CGO: a close up of a **lycaenid** on a tree



n02110806
Guiding Object: **basenji**
Base model: a dog laying on the sand near a tree
CGO: a **basenji** laying on the sand near a tree



Base model: a group of dogs laying on a couch with a person
CGO: two dogs and a **basenji** are laying on a couch



n03944341
Guiding Object: **pinwheel**
Base model: a blue and blue bird with a blue and blue flower
CGO: a blue **pinwheel** with a blue and blue flower on it



Base model: a person holding a pink and white umbrella
CGO: a hand is holding an **pinwheel** in the air



n09399592
Guiding Object: **promontory**
Base model: a stone castle with a castle in the background
CGO: a **promontory** with a castle in the background



Base model: a rock rock with a rock and a rock
CGO: a **promontory** with a rock and a rock

Figure 10. Additional examples of generated captions for ImageNet objects (in subsection 4.4). Guiding objects in CGO are in blue and errors in descriptions are underlined.