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# Supplementary Materials for "Off-Policy Self-Critical Training for Transformer in Visual Paragraph Generation"

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## 1 Visualisation

2 In the supplementary materials, we provide a visualisation of the image, ground-truths and generated  
3 paragraphs.





Image	Annotations	Our Method
	<p>This is an image of a large building. On top of the building there are two flags that are red, white, and blue. In front of the building there are several people that are wearing long red coats. There are two people that are riding horses. There are also two other horses that can be seen attached to a wagon.</p>	<p>There are three horses in front of the building. There are people sitting on top of the horses. There is a red and white horse in front of the building. There is a man on a horse. There is a man in a red jacket standing in front of the horses. There is a black horse in front of the building.</p>
	<p>This picture is taken on a tennis court on a sunny day. People are standing on the court playing tennis. The court is blue and green with white painted lines on it. There are two long nets on the court. A chain link fence surrounds the outside of the court. Tall green trees can be seen standing behind the fences. Large white clouds hover over the trees.</p>	<p>A woman is standing on a tennis court on a sunny day. The woman is holding a tennis racket in her hand. The ball is in the air. There is a black and white net on the side of the court. There is a woman standing on the tennis court also holding a tennis racket. The sky above the woman is blue with white clouds.</p>
	<p>A young boy, dressed in knee-high shorts and a red-striped white short-sleeved shirt, zooms around the skateboard apparatus. He is smart, as he has on both a helmet and white knee protectors. He wears gloves, to protect his hands, and simple shoes. He seems to be alone, though in the distance he can see an open concrete lot and beyond that a parking lot and some cars.</p>	<p>A boy is riding a skateboard in the air. The boy is wearing a black and white shirt, shorts and a black shirt. The boy is wearing a black and white shirt and shorts. The boy is riding a skateboard. The skateboard is black and has a white There is a black and white writing on the back. There are trees in the background, and the ground is visible wheels.</p>
	<p>This is a man on a motorcycle. The man is in the middle of a track. The man is doing a trick. The man is doing a wheelie. The man has a helmet on. The helmet is blue, red, and orange. There are banners on the fence. The banners are white with blue letters. The motorcycle is white and black. The wheels on the bike are black and rubber.</p>	<p>A man is doing a trick on a motorcycle. He is wearing a blue and white shirt and black pants. The man is wearing a black helmet on his head. There is a fence separating the fence from the fence. There is a fence with people in the watching the rider. There are people sitting in the background.</p>

Figure 1





Image	Annotations	Our Method
	There are people in the snow in the picture. The trees in the background have a little snow on them. Some people are sitting in the snow. The snow is covering the entire ground. Most of the people have goggles on. Two people are walking together on the snow. The person on the right is carrying ski sticks.	A man and a woman are standing in the snow. The woman is wearing a red jacket and the woman is wearing a black helmet and black pants. The man is wearing a black jacket and black pants. The woman is wearing a black jacket and black ski pants. and red jacket is on skis. The snow has trees on it.
	This is an image of a street. There is a parking meter on the sidewalk. The sidewalk is gray with stains of black. The parking meter is dark gray. The photo is in black and white. The street by the sidewalk is a dark gray. There is a car parked across the street. The car parked is white. There are cars behind a fence on the other side of the road.	A parking meter is sitting on the sidewalk. The meter is black and has a white logo on it. There are a lot of cars parked on the street. There are cars parked on the side of the street in the background. There is a car parked in the street. The parking lot is covered in a parking lot.
	Two elderly people are sitting on a bench on a cool afternoon. The lady on the left is wearing a checkered shirt and a black velvet hat. She has her purse, and her knitting supplies in her walker in front of her. The person on the right is an older man with a shopping cart in front of him. He is wearing a striped winter jacket, and a fur hat.	A man is sitting on a bench in front of a fence. There is a white fence behind him. There is a man with a black hat on a bench behind the man. There is a white fence behind the man. There is a man standing behind the man with a black bag on the. There is a white and a black bag on the man. There are other people standing behind the man.
	The man is pouting. The is wearing a bow tie. The tie is green. He is wearing a stripes shirt. There is a text on the photo saying "BOW TIE FAIL." On his side is his desk. The desk has computer. There are also small pile of papers. And there is also old speaker. The window is visible. Outside, the trees are brown and bare. The ground is covered in snow.	A man is standing in a room with a computer and a table. The man is wearing a white and a black and white shirt with a of white striped green and white striped tie. The man is standing in a large room with many tall buildings behind it. There is a table with a table behind the man. There are some white plates on the table. There are other objects on top of the table.

Figure 2





Image	Annotations	Our Method
	A boy in a white baseball uniform and a blue helmet is has swung a baseball bat and is holding the bat behind him. There is a player in the sane uniform on the left leaning down and walking towards the home base. In the distance there is a fence covered with a blue tarp. There are people standing on the other side of the fence on the left watching the game.	A baseball player is wearing a white uniform and a blue helmet. The player is holding a black and white baseball bat in his hands. The field has green grass, white painted lines, and a brown painted on it. A white baseball is soaring in the air towards the field. The man is wearing a white shirt and a blue helmet on his head. A white baseball is behind the The field.
	This is a picture of a street. The street looks to be at a bus station. There are many large buses parked. The buses are public transportation. The buses are painted white. There is black text on the bus. There are people walking by the station. There is a large walkway above the station. The walkway is metal with blue windows.	There are several buses parked in a parking lot. There is a red and yellow bus on the side of the street. There are people standing behind the buses. There is a large gray building behind the buses. There is a sky above the buses. There is a yellow sky above the buses.
	A baseball player is swinging a bat that is in his hand. He is wearing a black helmet and a black and white uniform. A catcher is squatting behind him wearing a face mask and a gray uniform. The catcher has a brown glove on his hand. Two men can be seen standing behind a green fence that is in the dug out near the field.	A baseball player is standing in front of a white baseball player. He is wearing a black helmet and a white shirt. There is a brown bat in front of him on the ground. There is a green behind him. There is a catcher wearing a black helmet on a green and white uniform. There is a green fence behind the player.
	This is an image of some people. The people are in a group. The people are playing video games. The people are holding controllers. The controllers are white. The man in the middle has a backwards hat on. The hat is black. The man has thin glasses on. The man has a yellow shirt on. The man has light blue jeans on.	There are three people standing in a room. There is a woman in a red shirt standing in front of a white dog. There is a brown dog sitting on the floor. There is a brown dog to the left of the people. There is a large white blanket on a window in the room. There are white curtains on the walls.

Figure 3





Image	Annotations	Our Method
	A large building with bars on the windows in front of it. There is people walking in front of the building. There is a street in front of the building with many cars on it.	A man is walking down a street wearing a shirt and a gray pants. The man is wearing a white shirt. There is a car parked on the street behind the building. There are cars on the street next to the building. There are trees on the side of the building. The sky is blue with white clouds.
	A red stop sign on a pole. There are black rocks next to the pole. There is a street next to the rocks. There are hills around the rocks.	A red stop sign is standing in a the middle of a mountain with a are visible. The mountain has dirt and dirt on it and a lot of grass. There is a mountain behind the sign and snow on the ground. There is a mountain behind the sign and it is a cloudy, gray and green in color. There is snow on the ground and the mountain is on the right. There is a mountain in the background.
	A man stands with one hand on his hip and one foot on a tilted skateboard. The street lights are all on and some windows of the buildings behind are also lit up. The skater is wearing a black tanktop and black pants. The paved area where he stands is wet.	A man is skateboarding in a city corner of a city. He is wearing a black shirt and black pants. There is a tall city street in the background. There are many buildings in the background. There are many buildings in the background. There are a lot of trees in the background.
	a man is on a skateboard. he is wearing all black. his skateboard is black as well. the skateboarder is wearing a hat.	A man in a green shirt and black pants is riding a skateboard. The man is in mid air a skateboard. The man has a green and white hat on his head. There is a large white building behind the man. There is a large blue wall behind the man. There are other are in front of the building.

Figure 4





Image	Annotations	Our Method
	Five off white sheep are standing on a rocky grassy hill. The stones are medium sized and are grey and white. Beyond the sheep is a bright blue body of water and a set of beautiful grass covered mountains and a blue sky.	There are several sheep standing on the grass. There is grass in front of the water. There is a large hill in front of the sheep. There are rocks on the ground next to the sheep. The sky is blue and blue. There are clouds in the sky.
	There are many boats in the water. There are small waves in the water around the boats. There is a bird flying in the air above the water. There is a hill on the other side of the water.	A bird is flying in the water. The sky is cloudy and blue. There is a boat in the water behind the bird. There are trees behind the bird. There are mountains in the distance. There are mountains in the distance of the water.
	A sandwich is displayed on a plate. It appears to be a brat sandwich that has peppers and pickles on it. The bun is very dark brown and there are some other foods in containers near the plate.	A sandwich is on the plate. The plate is white. The bread is toasted. The bread is made of bread and there are sliced in color. There are sliced pieces of meat on the sandwich. The bread is on the plate.
	A table with red napkins and place cloths are visible. There are wine glasses by place settings and loaves of Italian bread in the center. A bowl of salad dressings in bottles are also in the center of the table. A pretty pot of flowers decorate the table which is wooden and appears to be rectangular.	A table is sitting on a table. There is a red plate in the middle of the table. There is a wine white plate in the middle of the table. There is a wine glass with red wine on it. There are glasses on the table behind the table. There is a red wine glass to the right of the is.

Figure 5