Supplementary Material: Teaching Machines to Describe Images with Natural Language Feedback

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1 Feedback Crowd-Sourcing Interface

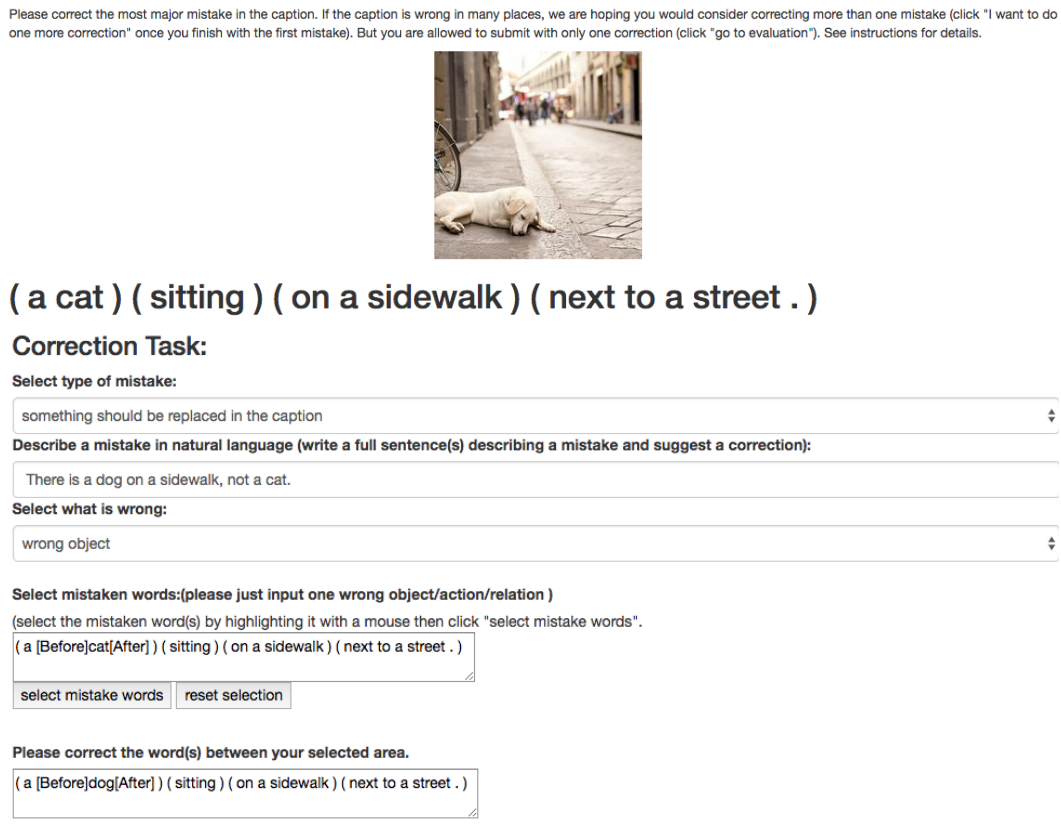


Figure 1: Our web-based feedback collection interface.

*Use footnote for providing further information about author (webpage, alternative address)—*not* for acknowledging funding agencies.

2 Examples of Collected Feedback

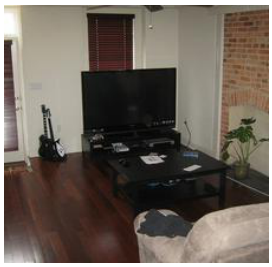
Image	Before Correction	Feedback	After Correction
	(a man) (holding a hot dog) (in a restaurant .)	The man is wearing a red sweater and this should be mentioned.	(a man wearing a red sweater) (holding a hot dog) (in a restaurant .)
	(a living room) (with a bed) (and a television .)	There is no bed, only a couch.	(a living room) (with a couch) (and a television .)
	(a man) (sitting) (on a bench) (with a cat) (on the bench .)	there is a cup, but no cat on the bench.	(a man) (sitting) (on a bench) (with a cup) (on the bench .)
	(a bird) (is flying) (in the air) (with a frisbee .)	There is no frisbee in the picture	(a bird) (is flying) (in the air .)

Table 1: Examples of Collected Feedback

3 Qualitative Examples

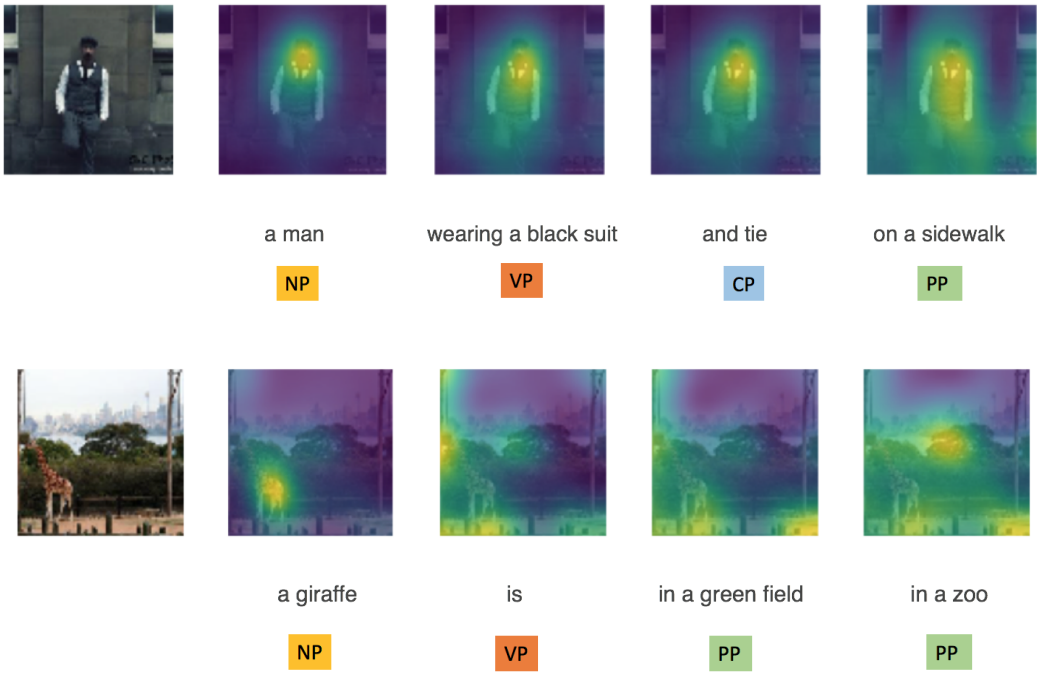


Figure 2: Examples of our phrase-based attention and phrase-label prediction.

Image	Caption
	• MLE: (a computer) (sitting) (on top of a desk) (on a monitor .) • RLB: (a laptop) (sitting) (on top of a desk) (next to a computer monitor .) • RLF: (a computer) (sitting) (on top of a desk) (with a monitor .)
	• MLE: (a suitcase) (is) (on a bed) (with a bag) (on top of it .) • RLB: (a suitcase) (is) (on a table) (with a suitcase .) • RLF: (a luggage bag) (sitting) (on a floor) (in a room .)

Table 2: Qualitative captioning results for our model and the baselines.

Image	Caption
	• MLE: (a red bus) (driving down a street) (with a person) (waiting) (on the street .) • RLB:(a red bus) (driving down a street) (with people) (driving) (on the side .) • RLF:(a red bus) (is driving down the street .)
	• MLE:(a street) (with a traffic light) (and a bus) (in the background .) • RLB:(a person) (walking) (on a city street) (with a yellow sign .) • RLF: (a street) (with a car) (is driving down a street .)

Table 3: caption results

Image	Caption
	• MLE: (a man) (is jumping) (into the air to) (catch a frisbee .) • RLB: (a man) (is throwing a frisbee) (in a park .) • RLF: (a man) (is holding a frisbee) (in his mouth .)

Table 4: An example of a failed caption, where however the baselines produce a more reasonable caption.

References