

Assignment 2

CS590-CSC (Crowdsourcing and Social Computing), Fall 2018, Purdue University

Due: 11:59pm Sep 14

Submit to course email: crowdsourcing.purdue@gmail.com

Bob is working on designing a task which asks crowd workers to help him count the number of targeted objects in images. For example, given the image below, a worker will be asked to count the number of cats shown in it.



One idea Bob has is that instead of just showing the image to workers and ask them to count, maybe it will be helpful if workers can *place and remove some markers on the image*, just as many people would do if they need to count something that is printed out on paper (see below for an example; the red dots on each cat is a marker placed by a worker). In particular, Bob hypothesizes that allowing workers to place and remove markers on the image would lead to more accurate answers from workers.



Can you design an experiment to help Bob test his hypothesis? In particular, please:

1. Describe the design of your experiment. Please specify the independent/dependent variable of your experiment, the procedure of your experiment, and the statistical tests you would use to examine Bob's hypothesis after collecting the experimental data.
2. Implement your experimental design by designing a task in Amazon Mechanical Turk's requester sandbox, and posting it on MTurk worker sandbox. Please set the expiration time of your task to be **at least 1 week**. Your task should be fully functional: After you submit this assignment, the instructor will play the role of "crowd worker" and work on your posted tasks. Your task should be able to record the data that the instructor enters when completing your task.

Files you are asked to submit:

1. A document that includes your experimental design (Part 1 above), as well as the link to your posted task on MTurk worker sandbox.
2. Code for the experimental task you design to test Bob's hypothesis.

Task inputs:

Please publish your counting task using the following images & targeted objects:

Target objects	Image URL
persons	https://empirically.co/wp-content/uploads/2018/02/people.jpg
cats	http://catsatthestudios.com/wp-content/uploads/2017/12/12920541_1345368955489850_5587934409579916708_n-2-960x410.jpg
cars	http://nhlwebsite.1kbahw8gd.maxcdn-edge.com/images/news/2017-07/traffic_21005p00-ccajj.jpg
flowers	https://anotherimg-dazedgroup.netdna-ssl.com/1024/azure/another-prod/170/7/177354.jpg
books	https://www.readersbooks.com/sites/readersbooks.com/files/mbooks.jpg
cameras	http://polkcitylibrary.com/wp-content/uploads/2014/10/People-using-their-camera-008.jpg

Hints:

Here is a StackOverflow discussion that might be helpful for you if you are considering some Javascript to enable people leave markers on web pages:

<https://stackoverflow.com/questions/38093549/javascript-place-marker-on-image-onclick>