

Hackathon Presentations

Expectations and advice for success in the [2014 LSSP Hackathon](#)

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Your group will have 10 minutes to present your work. An additional two minutes is available for questions.

Your presentation should have three parts (described below). Your group will receive a single grade, based entirely upon this presentation. Only one person need present (this is up to you, and does not affect the grade). You must demo (see grading at the end).

You are urged to revisit [What Makes a Group Succeed?](#), and the various handouts available at <http://bit.ly/lssp2014hack>

Your slides are due by 3 pm Wednesday, 12 March (*i.e.*, one hour before class).

Part One: Opening Question

[two minutes, maximum]

State, clearly, (A) what question your group intends to answer in the presentation, (B) what data your group decided to use, and (C) how this question relates to some aspect of the course so far.

Bonus: make this question compelling or relevant to a real-world problem. Get the audience interested and engaged early by polishing this part of the presentation.

Part Two: Methods and Tools

(A) Show clearly how the data was gathered, how you processed it, and what quantities you measured from the data once you had it in the right form.

(B) Show plots or figures that give us a sense of the "raw data".

Bonus: raise any concerns you might have with the data you gathered. What would you have done differently?

Part Three: Results

State, clearly, (A) the answer to your question, (B) the quantitative evidence do you have for this answer, (C) the statistical tests you did to test your answer.

Bonus: conjecture and explain. Do you think you have something real here? What kind of pattern is this, and how might you try to detect it in other scenarios?

Overleaf, we present an (imaginary) presentation that would receive a resounding “Excellent” rating.

Part One, Opening Question

“Can the choice of car, and in particular, of car color, serve as a signal of driver behavior? [A, what's the question] We conducted a three hour study of driver behavior at three intersections in Bloomington to test for correlations between the color of a car, and the behavior of its driver. [B, what did you do] This is connected to major theme of the course: how individuals send signals to each other in strategic or competitive contexts. [C, how it relates to other themes].”

Part Two, Methods and Tools

[Show clearly how the data was gathered...]

“We measured the length of time the car paused at a stop sign, and a three-state variable for whether they either slowed, stopped, or ran through continuously...”

[Show plots or figures...]

“Here is a breakdown of the data by car color; a breakdown by stop sign behavior. Here is the entropy of driver behavior, and the mutual information between car color and driver behavior.”

[Bonus: Critically examine your methods]

“In retrospect, we should have gathered data at different times of day, for the same crosswalk, as opposed to three different crosswalks at the same time.”

Part Three, Results

“We find strong evidence that the color of a car signals the behavioral patterns of the driver [A, the answer to the question]. We find that while our three-variable random variable has an entropy of 2 bits, this can be reduced to half a bit given knowledge of the car color [B, how you have quantified this]. The mutual information is between 0.3 and 1.2 (bootstrap corrected, two sigma) giving us reasonable confidence [C, statistical reasoning].”

OR

“We were unable to find any evidence of car color as a signal of driver behavior [A, the answer to the question]. We find that while there is great driver variability (entropy 2 bits) in behavior at a stop sign, the car color provides only a small amount of mutual information (0.01 bits) [B, how you quantified this]. This is consistent with zero, which we established by sampling from a null model where car color and behavior were taken to be independent [C, statistical reasoning].”

[Bonus]

“If drivers are truly using car color to send a signal of expected behavior, it may be a way for them to solve the coordination problem at Stop signs in their favor. If this is a general principle that applies in other domains, we might expect to see similar phenomena in choice of clothing, haircut, tattoos, or other easily-visible sign.”

Grading of Performance

You will receive a grade and feedback based on your performance on the three parts above. Your grade will also include an assessment of the question you ended up answering, as well as an assessment of the tools you choose and whether they demonstrate at least basic grasp of the concepts in class.

In order to make a good showing, you should have practiced your talk, ideally with all members of the group present.

You must demo (meaning: you must have completed your analysis so that you can answer the question).

No amount of performance in parts one and two will compensate for a failure to arrive at an (at least provisional) conclusion in part three.

It is strongly recommended that you use slides. Please contact me directly if you wish to make other arrangements.