

Data Science: Assignment 1

For this week, we ask that you complete two tasks: (1) a literature review; and (2) brainstorming new settings to test for the wisdom of crowds effect. Your team may also apply to take design, manage, and build the web platform for the collective experiment.

Note: We will send email based invite to edit the Google doc, so that we can track who edited, and added what. This will add accountability at your end, and we highly encourage you to be **original** and **diverse**. Cheating or unfair means can be tracked, and subject to further actions.

1. Literature Review

The first step in every research project is to familiarize oneself with previous work in the field. In order to do this, please find academic articles in which the wisdom of the crowds has been studied. Read those articles and fill out the “Past Studies” and “Literature Review” tabs in the Google spreadsheet to be shared soon.

Detailed instructions of how to fill out the spreadsheet can be found in the “Instructions tab.” A couple of entries have already been completed as examples. Please follow the format provided. Please fill out the “Past Studies” tab as soon as you find a new article that you would like to read, to avoid duplication of work (i.e., to avoid another student working on the same article). All papers that you read should be uploaded to the Papers folder on GitHub.

The following links may provide some useful resources for the literature review:

- Google scholar: <https://scholar.google.com/>
- IITB library: <http://www.library.iitb.ac.in/>
- JSTOR: <http://www.jstor.org/>

2. Brainstorming new tasks – please be creative, diverse and original

For this part of the assignment, please brainstorm as many new domains as you can think of in which wisdom of the crowds can be evaluated. Please add every new domain as a new entry in the “New Tasks” tab on the excel spreadsheet (linked above). Some examples have already been posted. Be as creative as you can, but take into account the feasibility of the tasks, and the fact that it will have to be implemented on an online platform.

3. Optional: Platform design

Some teams will be chosen to design, build, and manage the web platform that will run the wisdom of the crowds experiments. These teams will primarily work to implement an online framework to support the other teams’ experiment modules.

The final website should support tasks that involve:

- Images (including maps), audio, and video
- User interaction (voting, clicking on objects, entering text)
- Recording of results to a MySQL database

The teams must have experience with HTML, CSS, PHP, JavaScript, and MySQL. If you are interested, please submit an application on CrowdGrader. The details to submit the application will be shared on Piazza soon. So, please watch out there.

Your submission should include (as a pdf file):

- Qualifications of each team member, including his or her previous experience in web design.
- You may optionally include (**though encouraged**) a high-level description of how you envision the website. This might be a hand-drawn sketch, or a digital prototype. Some suggested tools to create prototypes are provided below, but also feel free to use any others tools that are not listed:
 - Balsamiq: <http://balsamiq.com/>
 - Invisionapp: <http://www.invisionapp.com/>
 - OmniGraffle: <https://www.omnigroup.com/omnigraffle>

This submission on Crowdgrader will be peer-graded afterwards, i.e. people submitting the application will review each other's work, critique and give grades.

TO DO Summary:

1. Literature review
 - a. Google spreadsheet – [Past Studies]
 - b. Google spreadsheet – [Literature Review]
 - c. Add paper to GitHub (link on Piazza)
2. Brainstorm new domains
 - a. Google spreadsheet – [New Tasks]
3. Optional, though encouraged: Application for web design team
 - a. Submit proposal on CrowdGrader – details to be shared on Piazza soon.