Theme 5: Free Topics

Description

You may freely propose a topic that is not listed in this document but relevant to this course. Some examples of free topics include improving over an existing paper (relevant to this course) or any application-based project that doesn't fit into the above themes.

In your proposal, please answer the following questions:

1. What are the names and NetIDs of all your team members? Who is the captain? The captain will have more administrative duties than team members.
2. What is your free topic? Please give a detailed description. What is the task? Why is it important or interesting? What is your planned approach? What tools, systems or datasets are involved? What is the expected outcome? How are you going to evaluate your work?
3. Which programming language do you plan to use?
4. Please justify that the workload of your topic is at least 20*N hours, N being the total number of students in your team. You may list the main tasks to be completed, and the estimated time cost for each task.

At the final stage of your project, you need to deliver the following:

- Your documented source code and main results.
- Self-evaluation. Have you completed what you have planned? Have you got the expected outcome? If not, discuss why.
- A demo that shows your code can actually run and generate the desired results. If there is a training process involved, you don't need to show that process during the demo. If your code takes too long to run, try to optimize it, or write some intermediate results (e.g. inverted index, trained model parameters, etc.) to disk beforehand.

CS 410 **Team NARK** Project Proposal

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Question 2:

According to AWS, sentiment analysis is the process of analyzing text data to determine the emotional tone of the message which is usually categorized as positive, negative, or neutral. Our project topic will be performing sentiment analysis on Twitter/X to determine whether a particular topic is viewed positively or negatively and give an overall sentiment value. This can provide consistently unbiased insight towards the overall public opinion on a particular topic. Clients using our application would be able to get objective feedback on a certain topic and can use that feedback to act accordingly.

Our planned approach is to build a web application with a front-end UI that allows the user to input a search term and display the sentiment analysis results and a back-end that consumes the Twitter API to fetch data and perform sentiment analysis on.

Question 3:

Our programming languages of choice will include JavaScript for the front-end and Python for the back-end. We plan on using the React framework for our front-end interface, and Flask framework for the REST API for the backend.

Question 4:
20 hours/ individual * 4 individuals =
80 hours total

Front-end development: 20 hours
Front-end testing: 5 hours
Back-end development: 30 hours
Testing: 10 hours
Design discussion: 10 hours
Demo/ misc.: 5 hours