CS224C: NLP for CSS

Project Overview

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Pick a question that you’re excited about

- What are some pressing issues in society today?
- Could you formulate a research question to deeply explore it?
- What type of textual data might be available for you to use?
- Which softwares or tools could you use to work on it?
- How do you evaluate the outcome of your project?

Key Considerations

Availability of data

- Be careful in deciding whether to collect and annotate your own data

ML framework

- sklearn, keras, pytorch, Tensorflow

Statistical models

- R, Stata, etc.

Availability of computation

Literature Review

Conduct a thorough literature survey

A few places to check out:

- Google Scholar
- ACL Anthology (https://aclanthology.org/)
- ICWSM Proceedings (https://www.aaai.org/Library/ICWSM/icwsm-library.php)
- SIGCHI (https://dl.acm.org/conference/chi/proceedings)
- CSCW (https://dl.acm.org/conference/cscw/proceedings)
- PANS (https://www.pnas.org/loi/pnas)

Types of Projects

Case studies of interesting social phenomena (*e.g., pandemic, fake news, hate speech, cross-culture difference, social movement, election, …*)

Visualization or interpretability study of social phenomena

Applying a computational text-based method to real world problem

Compete in a predefined data science competition

New methodologies tailored to a CSS problem

Empirical survey papers

Position papers or a critic (talk to us first)

Recommendations for *Successful* Projects

Start early and work on it every week rather than rushing at the end

Get your data first!

Have a clear, well-defined research question (novel/creative ones ++)

Results should teach us something

Visualize results well

Divide the work between team members clearly

Common Issues

Data not available or hard to get access to

No code written for model/data processing

Team starts late

Results/Conclusion don’t say much besides that it didn’t work

Even if results are negative or unexpected, analyze them

Resources

Computation

- Google Cloud/Google Colab

Discussion

- Come to TAs and Diyi's Office hours

Project Ideas

Project Datasets

Fake news

https://www.kaggle.com/mrisdal/fake-news

Discourse acts

https://github.com/google-research-datasets/coarse-discourse

Authorship attribution

https://archive.ics.uci.edu/ml/datasets/Victorian+Era+Authorship+Attribution

Stanford Large Social Network

https://snap.stanford.edu/data/

Project Datasets

Reddit Dataset

- https://arxiv.org/abs/2001.08435
- Google BigQuery

Election Dataset

- https://electionlab.mit.edu/data#tools

ICWSM Datasets

- Just search for a conference year like 2023 and Ctrl-F for “Datasets” papers

Misc

- LOCO: The 88-million-word language of conspiracy corpus

Sample Project Ideas Part 1 *(Very well defined)*

Identifying and Combating Health Misinformation: https://nnlm.gov/misinfo

Workplace injuries: https://www.topcoder.com/challenges/30103825

Toxic comments

https://www.kaggle.com/c/jigsaw-toxic-comment-classification-challenge

Modeling interactive affective responses

https://github.com/kj2013/claff-offmychest/blob/master/README.md

Sample Project Ideas Part 2 *(Relatively open-ended)*

Understanding controversial conversations online

Identify biases in language, online community, fictions, recommender letters…

Detect hate speech or other abusive behaviors

Who is the target? How does hate evolve over time? How to intervene?

Analyze dark patterns in ads, or campaigns

Track fake news or propaganda online

Build models for fact-checking

CS/NLP for social good (e.g., mental health, depression, climate change…)

Come up with your own idea and talk to us!