The University of Texas at Dallas
CS 6320
Natural Language Processing
Spring 2021

Class Project Proposal

Project Group: No???

Students:
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1. The Team

   Abhishek Ramesh Hosmani (axr190014)
   Ayush Bhardwaj (axb190047)
   Pragya Nagpal (pxn190012)
   Suvansh Kumar (sxk170058)
   Yatharth Singhal (yxs190009)
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In this project, our team will build a suite of natural language processing tools for discerning affect targeting misinformation about the COVID-19 vaccine.

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We commit to have the following distribution of work and collaboration:

All students will participate in the Phase 1 of the project to create annotations for the stance of the tweets.

Ayush Bhardwaj(X1) shall be responsible for designing the stance detection neural architecture and compare it against two baseline, one being the BERT model. X1 shall collaborate with X2, X3, X4 and X5 to enable them to incorporate other forms of

affect processing in the system and to evaluate them. Student X1 will be responsible for creating the new system Stance_Detection.

Suvansh Kumar (X2) shall be responsible for fine-tuning a sentiment detection system that employs neural learning on the training data and to generate an enhanced architecture for stance detection that takes into account sentiment detection. This student shall collaborate with X1 (to use the stance detection system) and train a new version of the system that uses sentiment detection. Student X2 will be responsible for creating the new system Stance+Sentiment_Detection.

Abhishek Ramesh Hosmani (X3) shall be responsible for fine-tuning an emotion detection system that employs neural learning on the training data and to generate an enhanced architecture for stance detection that takes into account emotion detection This student shall collaborate with X1 (to use the stance detection system) and train a new version of the system that uses emotion detection. Student X3 will be responsible for creating the new system Stance+Emotion_Detection.

Pragya Nagpal (X4) shall be responsible for performing neural topic detection and generate a mapping from topics to hashtags that shall be used to enhance the stance detection system developed by X1. Student X4 will be responsible for creating the new neural system Stance+Topic_Detection.

Yatharth Singhal (X5) shall be responsible for fine-tuning a semantic role labeling system on the annotated data. Also student X5 will need to perform Named Entity Recognition on the data. For each stance value, it will create 15 connotation frames for the most frequent predicates, and 15 connotation frames that involve named entities. In addition, this student will collaborate with X1 (to use the stance detection system) and train a new version of the system that Named Entity Recognition and semantic Role labeling. Student X5 will be responsible for creating the new system Stance+NER_SRL_Detection.

All students can use publicly available software (from github) and will participate in writing a unique project report.