ClaimPortal: Integrated Monitoring, Searching, Checking, and Analytics of Factual Claims on Twitter

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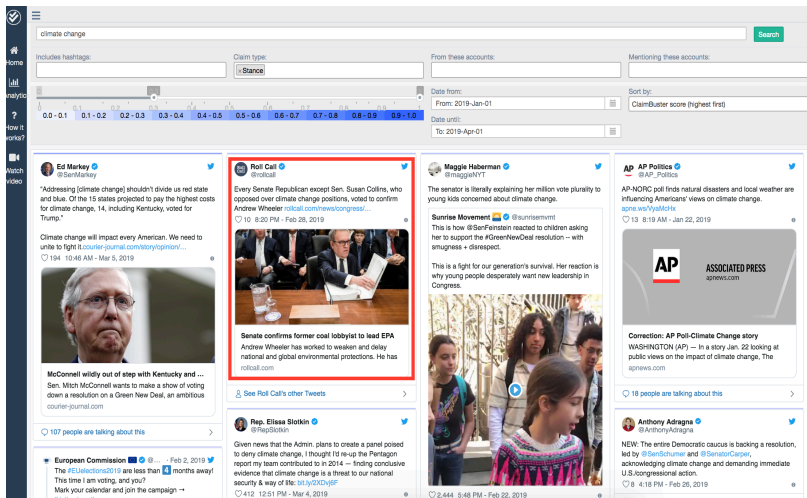
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Motivation

- The problem of unchecked claims is exacerbated on social media.
- Fact-checking every social media post is not possible due to:
  - laborious and intellectually demanding process
  - limited resources
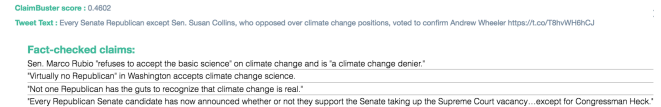 - sheer volume of data

What does ClaimPortal do?

- Assist users to sift through factual claims in tweets.
- Allows users to customize their search with a variety of filtering conditions:
  - Keywords, dates, twitter handles, hashtags, user mentions, claim types, and check-worthiness score.
- Provides simple but intuitive analytics and visualizations.
- Presents similar fact-checks for a user-selected tweet.
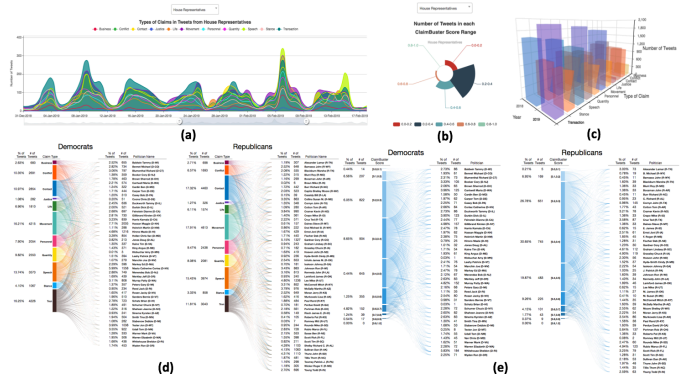
ClaimPortal GUI
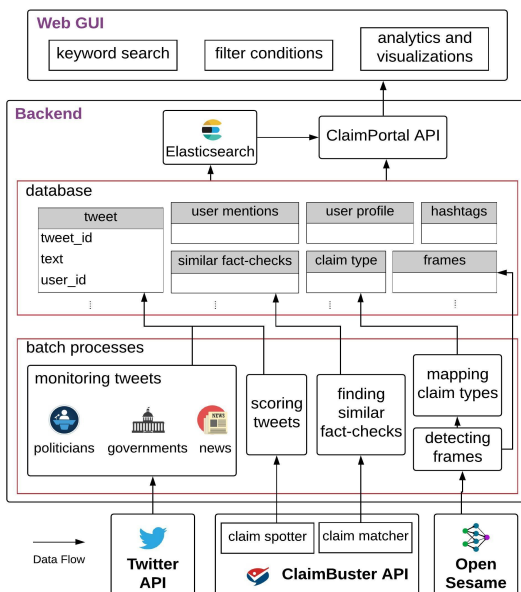
ClaimPortal main web page

Similar fact-checks for the highlighted tweet on the main web page

Visualizations on the analytics page

ClaimPortal System Architecture

Claim Type Detection

Task: Classifying tweets based on the types of factual claims they promote.

- Employed a sub-collection of FrameNet frames.
- Created several new factual-claims related frames.
- Adopted ACE event types as claim types.
- Utilized the study of mapping frames to event types (Spiliopoulou et al., 2017).
- Introduced four new event types with their mapped frames.
- Used open-sesame for frame detection.

Claim Type (ACE Type)	FrameNet Frames
Conflict	Invading, Attack, Explosion, Destroying, Hostile encounter, Use firearm, Shoot projectiles, Downing, Protest, Political actions
Life	Giving birth, Being born, Death, Killing, Forming relationships, Cause harm, Personal relationship, Dead or alive
Movement	Self motion, Inhibit movement, Travel, Departing, Arriving, Visiting, Motion, Cause motion, Bringing
Transaction	Import export scenario, Commerce buy, Commerce sell, Getting, Commerce pay, Borrowing, Giving
Business	Activity start, Conquering, Endeavor failure, Intentionally create, Business closure, Locale closure
Contact	Meet with, Discussion, Come together, Communication, Contacting, Communication means, Text creation, Request
Personnel	Take place of, Get a job, Hiring, Appointing, Removing, Firing, Quitting, Choosing, Becoming a member, Change of leadership
Justice	Arrest, Imprisonment, Detaining, Extradition, Breaking out captive, Try defendant, Pardon, Appeal, Verdict, Sentencing, Fining, Execution, Releasing, Notification of charges

New Claim Type	FrameNet Frame (frames in red color are created by us)
Comparison	Comparing two entities, Comparing at two different points in time
Quantity	Change position on scale, Causation, Cause change of position on a scale, Creating, Occupy rank, Ratio
Stance	Taking sides, Opinion, Vote, Be in agreement on assessment, Oppose and Support Consistency
Speech	Statement, Affirm or deny, Telling

System

https://idir.uta.edu/claimportal/

Funding

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KF