

ABSTRACT

The **exploitation of social media networks** came to light following the 2016 US Presidential election. Since then, the websites we use every day have become more aware of the issue, but disinformation has also become more pervasive. With another election cycle just around the corner, we must **arm ourselves with the correct tools and information** to ensure we do not fall prey to **false stories, targeted beliefs, and general discord**. The Open Social Comparison and Analysis for Reddit tool, or OSCAR, hopes to **provide a more informed experience** on Reddit regarding its users and communities.

GOALS

- Explore users, communities, and topics on Reddit to discover **flags of potentially harmful users**.
- Present **information, comparisons, and recommendations** to users to make them more informed about the users and content they are interacting with online.
- Implement **data analysis algorithms and visualizations** to summarize available information about a user in an easily digestible way.
- Implement **graph analysis algorithms and visualizations** to summarize available information about user networks in an easily digestible way.

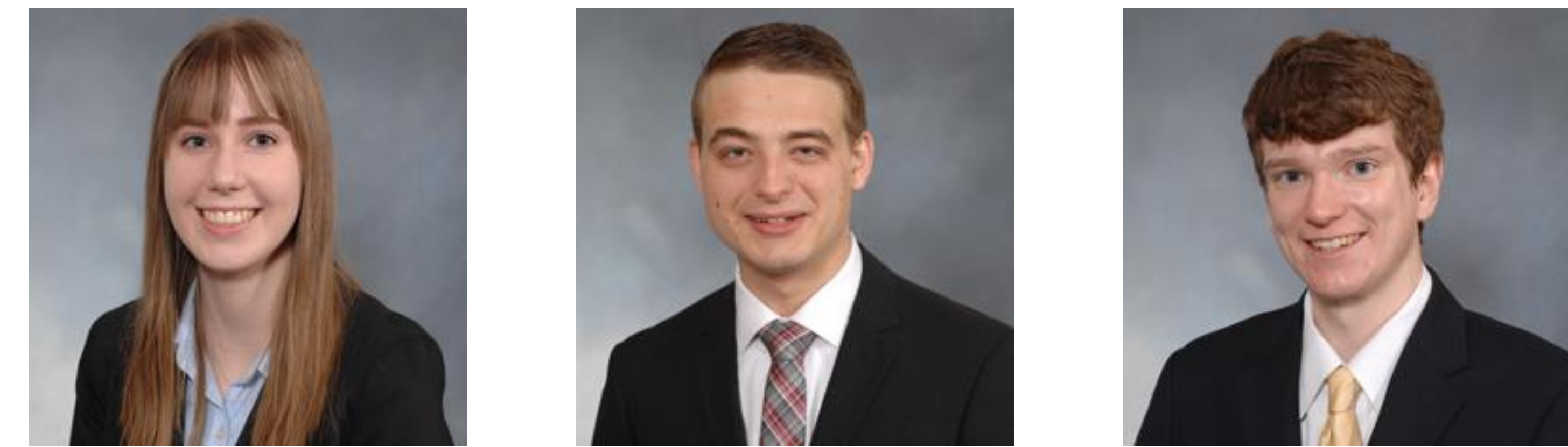
IMPACT & MISSION

- Allows users to **educate themselves** about who they are interacting with online and determine if these users might have hidden intentions.
- Gives users an indication as to whether or not they should be particularly **wary of information** posted by a certain user.
- Provides an **alternative, analytical way** to view users and communities on Reddit.
- Helps **fight the intentional and unintentional spread of misinformation**, allowing us to live in a more fair and honest society.

TECHNOLOGIES

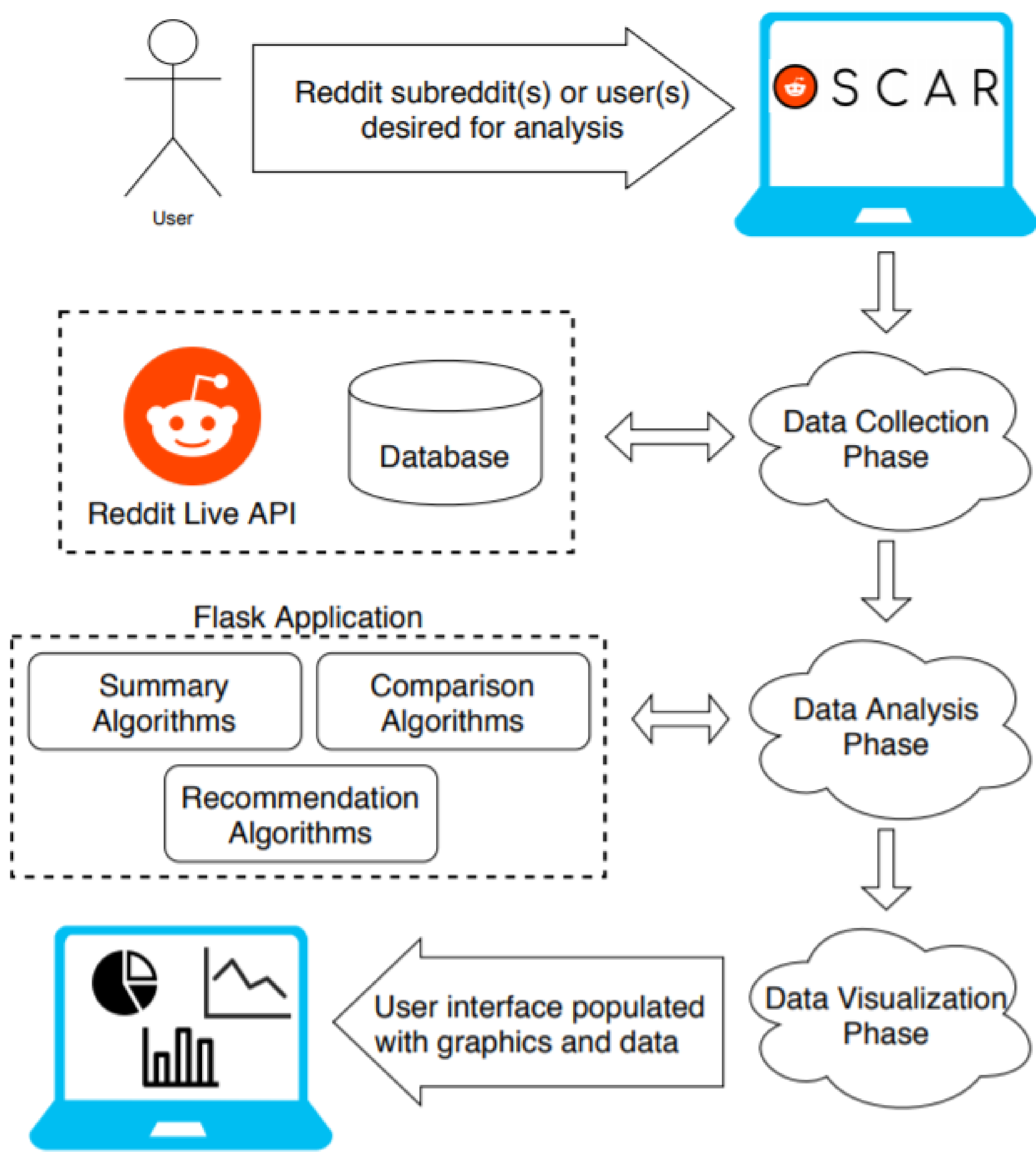


Open Social Comparison and Analysis for Reddit



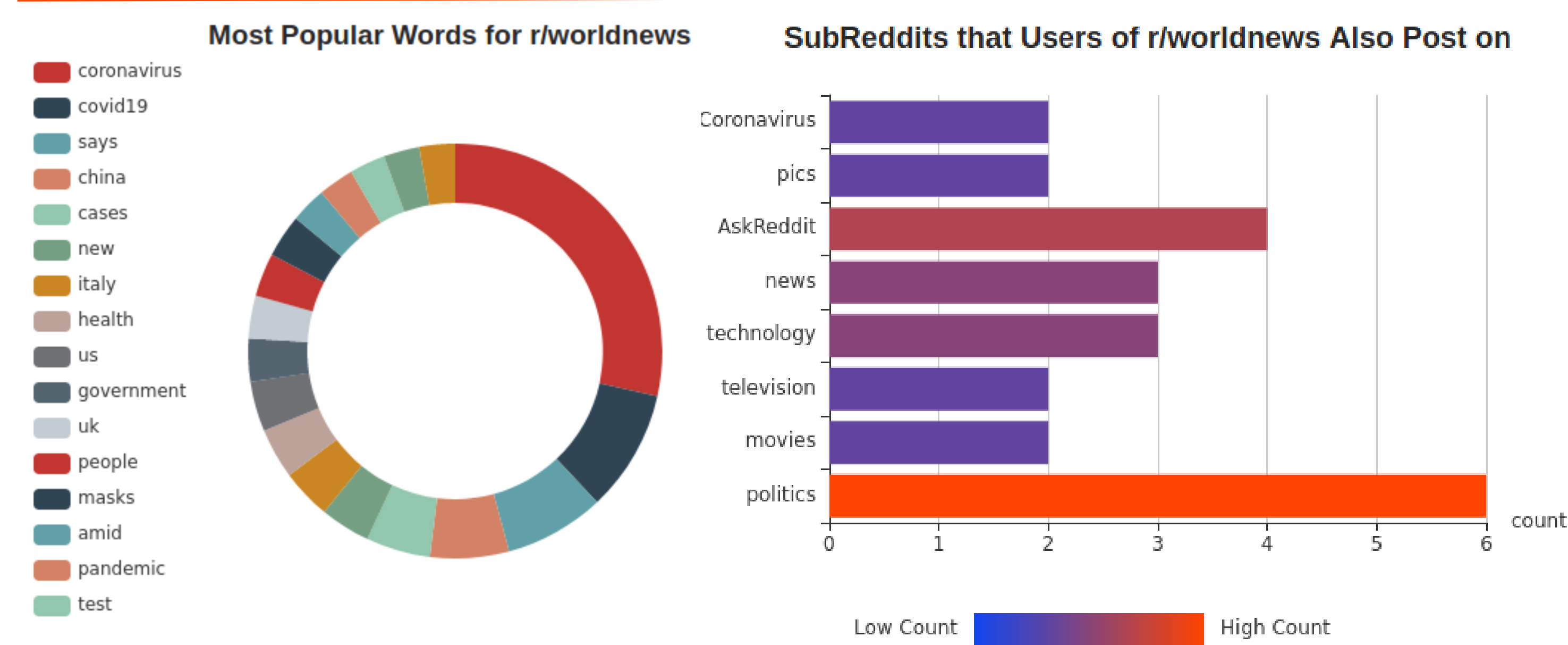
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SYSTEM DESIGN

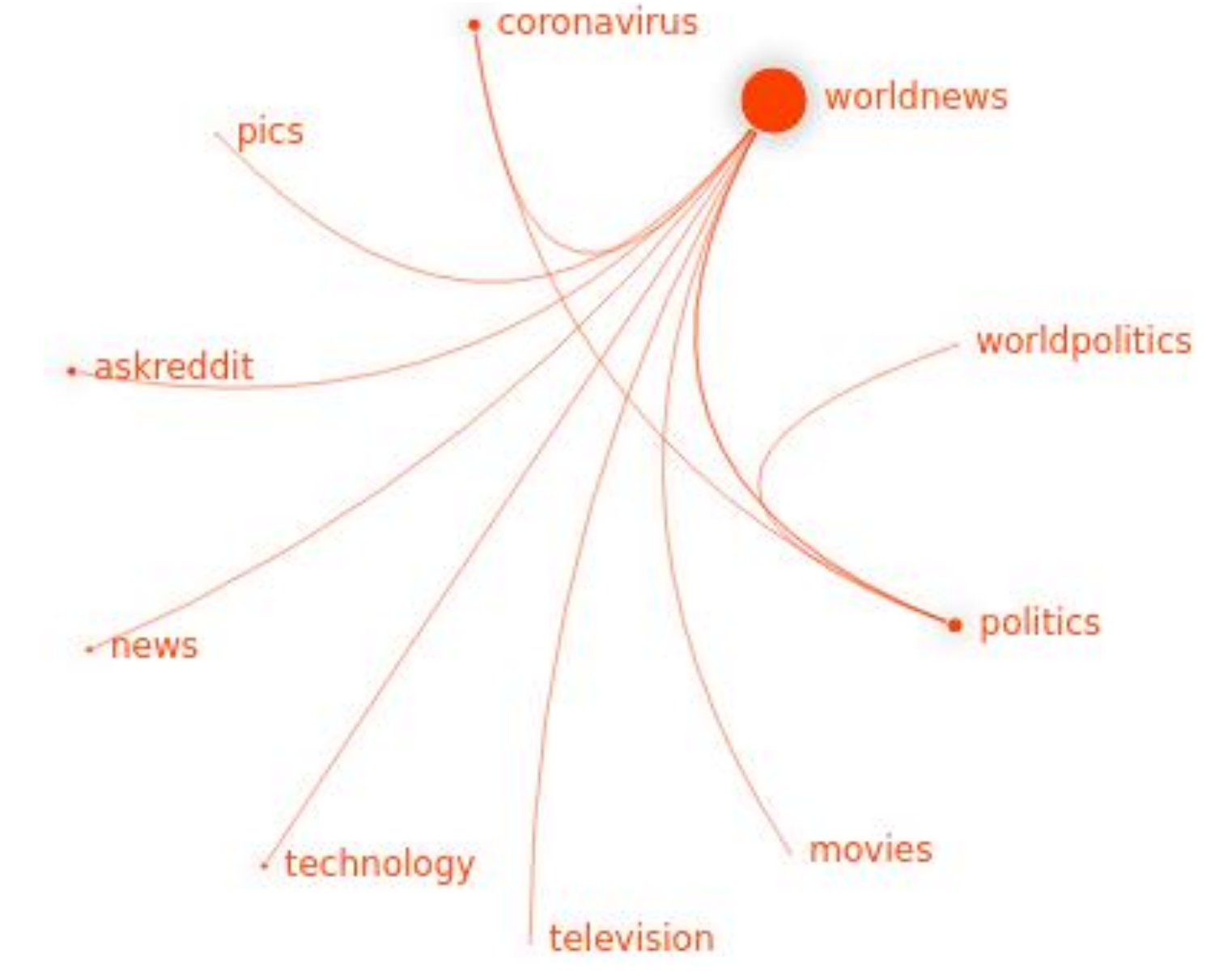


Our system, at a high level, consists of three phases that must be completed to deliver insights to the user: **data collection, analysis, and visualization**. Our Reddit Live API, database, Python Flask application, and Vue.js user interface work together to compute and present these insights to the user in an easily digestible format.

SAMPLE OUTPUT



Popular SubReddits of r/worldnews Expanded Based on User's Top SubReddits to Post on



These are three sample visualizations that appear in the output for the analysis of the subreddit r/worldNews. They demonstrate popular words and topics as well as the network of subreddits surrounding the subreddit that has been analyzed.

MERITS & CHALLENGES

- The identification of misinformation via **analysis of social networks** rather than analysis of the content has been researched but has not been implemented in a way that can be easily used by consumers.
- This methodology could be improved and expanded to other social media websites to provide **a new technological solution to the problem of misinformation**.
- We have **limited memory/processing resources** and completed this project for free, causing challenges with processing time and computation power.

ACCOMPLISHMENTS

- Completed the **Reddit Live API**, which allows us to get live data about Reddit subreddits and users in easy to process formats.
- Implemented **numerous data analysis algorithms** in order to gain insights about users and subreddits.
- Designed a **recommendation algorithm** to give users of OSCAR an indication of whether or not they could be interacting with a spreader of misinformation.
- Built a **Python Flask microservice** for efficient request and delivery of collection and analysis results.
- Created a **user interface** for easy request, delivery, and interaction with analysis of subreddits or users.